Safety Data Sheets

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NAPA Mac's Battery Terminal Cleaner		Balkamp, Inc.	04/06/2015	2190
NAPA Mac's Carb, Choke, & Throttle Body Cleaner		Sherwin-Williams Diversified Brands	08/08/2012	2202
Napa Mac's Carburetor Cleaner with Dipping Basket		RSC Chemical Solutions	05/01/2015	2207
NAPA MAC'S PREMIUM STARTING FLUID		Niteo Products, LLC	07/31/2016	2219
NAPA MAC'S PREMIUM STARTING FLUID		Niteo Products, LLC	07/31/2015	2242
NAPA Power Steering Fluid		Warren Oil Co.	05/28/2015	2265
Napa Prem Perf Atf Type Fa Transmission Oil		Ashland	05/23/2015	2272
NAPA SUPER HEAVY DUTY BRAKE FLUID		NAPA UNITED		2284
NICKEL ALLOYS		RUSSEL METALS INC.	11/01/2011	2286
OATEY CANADIAN PURPLE PRIMER/CLEANER		Oatey Company	09/11/2012	2290
Oatey PVC Heavy Duty Clear or Gray Cement		OATEY	12/15/2014	2295

Product Name	CAS Number	Manufacturer	Version Date	Page
OFF! ACTIVE INSECT REPELLENT I		S.C. Johnson & Son, Inc.	02/23/2015	2305
OMNI-PAK Master Blend Fill-One		THE SHERWIN-WILLIAMS COMPANY- KRYLON Products Group	05/03/2011	2319
Original LUBE-MATIC Liquid		Weld-Aid Products	10/06/2014	2323
PB Penetrating Catalyst		The Blaster Corporation	12/01/2013	2330
PEAK Concentrate Antifreeze & Coolant (Conventional Green Formula)		Old World Industries, LLC	04/06/2016	2338
PERMATEX Copper Anti-Seize Lubricant - 8 oz. brush top bottle		Permatex, Inc.	12/30/2012	2347
Permatex Thread Sealant with Teflon		Loctite Corporation	01/27/1999	2352
PGP Cascade Professional Automatic Dishwashing Detergent		Procter & Gamble Professional	03/12/2013	2355
Polytop 90 SA, Polytop 0900 SA, Polytop 130 SA, Alumet 1200, Alumet 1500, Alumet 1600, Alumet 1700, Alumet 1800, Alucar 2600, Alucar 2900, Alubright 3100, Alubright 3200, Alubright 3400, Alubright 3700		MD-BOTH Industries	01/30/2003	2359
Power Punch Oil Supplements		POWER PUNCH INC	08/10/2016	2363
Power Punch Oil Supplements		POWER PUNCH INC	11/04/2013	2367
POWERCRON WHITE PASTE		PPG Industries, Inc.	11/10/2012	2370
PROFESSIONAL LIME SHINE		National Laboratories L & F Products	12/17/1992	2378
Propane	74-98-6	Airgas USA, LLC	10/20/2015	2380
Pyroil STARTING FLUID		Niteo Products, LLC	07/31/2016	2392
Pyroil STARTING FLUID		Niteo Products, LLC	08/01/2015	2415
Pyroil STARTING FLUID		Niteo Products, LLC	07/31/2016	2438
Pyroil STARTING FLUID		Niteo Products, LLC	08/01/2015	2461
Quick Line White Traffic L/F TM-1575 Quick Line White Traffic, TM-3575 Quick Line Yellow Traffic		Diamond Vogel Paint	03/01/2010	2484
R-O 6X405G LEAKSEAL CLEAR		Rust-Oleum Corporation	08/06/2015	2489
Rantec Earth Tack	25085-02-3	Rantec Corporation	02/19/2009	2494
REDUCER 94		Strathmore Products, Inc.	12/18/2015	2496
Resin Bonded Abrasive Products		NORTON COMPANY	01/01/2003	2502
Rid-X Septic System Concentrated Treatment Powder		Reckitt Benckiser - Morris Corporate Center IV	02/18/2015	2509

Product Name	CAS Number	Manufacturer	Version Date	Page
Rogersolite (55gl)		ROGERSOL	10/30/2001	2520
Rogersolite (5gl)		RYCOLINE PRODUCTS LLC	12/19/2005	2526
ROSCO FOG FLUID & ROSCO SMOKE SIMULATION FLUID		ROSCO LABORATORIES	04/01/2015	2531
RPM Universal Gear Lubricant		Chevron Products Company - A Division of Chevron U.S. A. Inc.	08/20/2013	2537
RUST-OLEUM HIGH PERFORMANCE INDUSTRIAL ENAMEL AEROSOL - INVERTED STRIPING		Rust-Oleum Corporation	08/27/2004	2544
SAFETY BLUE		SEYMOUR OF SYCAMORE	10/13/2015	2554
SAFETY YELLOW ENAMEL		TRINKOTE INDUSTRIAL FINISHES	02/25/2010	2558
Safety-Silv 20, Safety-Silv 25, Safety-Silv 30, Safety-Silv 35, Safety-Silv 40, Safety-Silv 45, Safety-Silv 50, Safety-Silv 72		HARRIS PRODUCTS GROUP	07/07/2015	2562
SCRUBS In-A-Bucket		ITW Professional Brands	03/31/2015	2570
SCRUBS Solar Guard Sunscreen Wipe		ITW Professional Brands	01/22/2014	2578
SCRUBS Solar Guard Sunscreen Wipe		ITW Pro Brands	01/22/2014	2586
SERVICE PRO GLASS AND UTILITY CLEANER		AIOD (ASSOCIATION OF INDEPENDENT OIL DIS	10/11/2012	2594
SERVICE PRO HEAVY DUTY STARTING FLUID SP5315		Penray Companies, Inc.	08/08/2007	2599
Shapie Fine Point Permanent Markers		Sanford, L.P.	02/01/2007	2603
Sharpie Accent Highlighters – Tank, Generation, Pocket, Mini, Grip, Liquid Pen, Jumbo, Retractable, and Bladetip		Sanford L.P.	04/02/2014	2605
Sharpie King Size Permanent Markers		Newell Brands	06/03/2016	2607
Sharpie, Industrial Extra Fine Point and Fine Point Permament Marker		Sanford Corporation	06/21/2000	2612
Shaw 4030 Vinyl Composition Tile Adhesive		W.F.Taylor LLC	10/27/2015	2614
Sikaflex-1A		SIKA CORPORATION	07/29/2014	2621
SODIUM NIT SOLUTION		TRINKOTE INDUSTRIAL FINISHES	09/15/2011	2632
SOLUTION S0234 TDS-1		Nalco Chemical Company	07/31/2001	2636
SPCUSE 1-GL THINNER THINNER		Rust-Oleum Corporation	04/29/2016	2639
Water Additive - Part #32-001100 or as included with 32-000130 or 32-000230		Sperian Eye & Face Protection, Inc.	10/18/2012	2644
Sperian Water Additive - Part #32-001100 or as included with 32-000130 or 32-000230		Sperian Eye & Face Protection, Inc.	06/16/2009	2645

Product Name	CAS Number	Manufacturer	Version Date	Page
Stainless Steel Products, All Grades		North American Stainless	09/01/2016	2646
Stainless Steel Products, All Grades		North American Stainless	06/01/2015	2647
STRUST SSPR 6PK FLAT GALVANIZING COMPND		Rust-Oleum Corporation	05/15/2015	2654
SULFLO 1		SULFLO INC.	04/08/2015	2661
Super White Multi-Purpose Lithium Grease		CRC Industries, Inc.	01/19/2015	2668
SUPERMEND HARDENER		Eclectic Products Inc.	11/06/2013	2676
SUPERMEND RESIN		Eclectic Products, Inc.	11/30/2009	2687
SynClean HD		Environmental Manufacturing Solutions LLC	05/20/2015	2695
SYNTHETIC POWER STEERING FLUID PROTECTANT		Radiator Specialty Company	12/08/2009	2702
Tap Magic PROTAP		Steco Corporation	12/31/2014	2706
Technician Grade Di-Electric Grease		CRC Industries, Inc.	05/21/2015	2707
TECnique Self Etching Primer		Martin Senour Paints	06/04/2016	2715
TECnique Self Etching Primer		Martin Senour Paints	04/19/2016	2732
TECnique Self Etching Primer		Martin Senour Paints	11/28/2015	2748
TECnique Self Etching Primer		Martin Senour Paints	08/18/2015	2764
THERMALB UP HOPPER GRAY	25265-77-4	Williams-Hayward Protective Coatings, Inc.	05/15/2015	2770
THERMALB UP HOPPER GRAY	25265-77-4	Williams-Hayward Protective Coatings, Inc.	08/17/2011	2779
THERMALBOND(ARI)413C GRAY	25265-77-4	Williams-Hayward Protective Coatings, Inc.	05/17/2011	2783
THRMLBD USL GRAY NON-SKID		Williams-Hayward Protective Coatings, Inc.	07/13/2016	2787
TOP GUN 200 SILICONE ACRYLIC CAULK		PPG Industries, Inc.	04/29/2016	2795
Trans-X Posi Trac Limited Slip Gear Oil Additive		CRC Industries, Inc.	06/01/2015	2808
TURBO FUSE ADHESIVE Instant Bonding Super Glue		Palm Labs., Inc	12/06/2013	2816
UCON Refrigeration Lubricant 488		UNION CARBIDE CORPORATION-A subsidiary of The Dow Chemical Company	03/02/2015	2818
ULTRA HD		KO MANUFACTURING INC	05/01/2014	2828
ULTRAGUARD ATP50FR		PPG Industries, Inc.	09/26/2014	2831
UP2251, UP2252, UP2253 2K PRIMER FILLER		U-POL US Inc.	07/18/2012	2844

Product Name	CAS Number	Manufacturer	Version Date	Page
HS (4:1)				
Vitrified Bonded Abrasive Products		NORTON COMPANY	02/01/2006	2850
Vortex Color Resin Base		Vortex Sprayliners Inc		2854
Wash Wax ALL Degreaser		Aero Cosmetics Products, LLC	08/11/2016	2857
Wash Wax ALL Degreaser		Aero Cosmetics Products, LLC	01/18/2014	2862
Water Based Epoxy		Rust-Oleum Corporation	06/07/1995	2866
2CDU5 - Lubricant Aerosol w/smart straw 11		WD-40 Company	03/11/2010	2867
WD-40 Multi-Use Product Bulk Liquid		WD-40 Company	08/25/2015	2870
WD-40 Multi-Use Product Bulk Liquid		WD-40 Company	08/01/2015	2875
WD-40 Multi-Use Product Bulk Liquid		WD-40 Company	08/25/2015	2880
Weld Spatter Release		J. Walter Company Ltd.	01/19/2010	2885
WET STRIP CLEANER		Marbo America Inc.	07/31/2015	2887
Wet Strip Rinse		Marbo America Inc.	07/05/2015	2891
WINDEX ORIGINAL GLASS CLEANER WITH AMMONIAD		S.C. Johnson & Son, Inc.	02/25/2015	2898
X JT VERTICAL JOINT SEALER GRAY		Tremco Incorporated	07/08/2012	2907
Xtreme Blue Windshield Washer Concentrate		Camco Manufacturing, Inc.	10/07/2014	2913
Xtreme Blue Windshield Washer Concentrate		Camco Manufacturing, Inc.	06/11/2013	2923
Xylol		Diamond Vogel Paint	06/18/2015	2932
Yellow Traffic High Solids L/F		Diamond Vogel Paint	06/04/2015	2943
Zep MVP		ZEP Inc.	04/23/2015	2953
Zep Reach		ZEP Inc.	07/09/2015	2963
ZUD HEAVY DUTY CLEANSER (POWDER)		Reckitt Benckiser North America, Inc.	03/08/2007	2973

Material Safety Data Sheet

IMPORTANT NOTICE: This Material Safety Data Sheet (MSDS) is issued by LA-CO Industries, Inc. (LA-CO) in accordance with the U.S. OSHA Hazard Communication Standard, Canadian WHMIS Controlled Products Regulations, British CHIP2 regulation 6, Australian NMRCWHS and ANSI Z400.1-1993 guidelines. The information contained herein must not be altered, deleted or added to, with the exception of adding supplier/importer information in the space provided. LA-CO has no objection to its MSDS being copied if: a) the copy is made for safety-related purposes; and b) no alterations or amendments are made to the text or format of the MSDS, with the exception of adding supplier/importer information in the space provided. LA-CO does not guaranty the accuracy of any MSDS for our products which: a) is not prepared by LA-CO; b) is not authorized by LA-CO; c) is not in the format originally supplied by LA-CO; or d) has otherwise been amended or altered by a third party, with the exception of adding supplier/importer information in the space provided.

Section 1 Product and Company Identification

Product Name: **"ALL WEATHER PAINTSTIK "**
“ALL WEATHER HOT CLIMATE PAINTSTIK”
"B", "B-3/8", "B-E", "B-16", "C", "E", "F", & "N" PAINTSTIKS
"LACQUER STIK"

Revision #: 2.4 **Date Prepared:** December 7, 1994 **Date Revised:** September 1, 2013

Manufacturer:

LA-CO INDUSTRIES, Inc./*Markal* Co.
1201 Pratt Blvd.
Elk Grove Village, IL, USA 60007-5746
Information Telephone: 847-956-7600
Emergency Telephone: Call CHEMTREC
USA 800-424-9300
International (Call Collect) 1-703-527-3887
Chemical Formula: Mixture
CAS No.: Not Applicable. **Derivation:** Not Applicable.
Synonyms: Not Applicable.
General Use: Marking and Identification.

Supplier/Importer:

Section 2 Composition/Information on Ingredients

Ingredient	CAS No.	%
Linseed Oil [5,6]	8001-26-1	0 - 40
Carbon Black [3,4,5,6] (Black and gray Paintstiks only) ACGIH: TWA = 3.5 mg/kg OSHA: TWA = 3.5 mg/kg	1333-86-4	2
Aluminum [3,4,5,6] (Silver Paintstiks only) ACGIH: TWA (dust) = 10mg/m^3 OSHA: TWA (dust) = 15mg/m^3 U.S. Safe Drinking Water Act: Appears on the Drinking Water Priority List Substances.	7429-90-5	14
Copper [1,3,4,5,6] (Gold Paintstiks only) ACGIH: TWA = 1 mg/m^3 (dust) OSHA: TWA = 1 mg/m^3 (dust)	7440-50-8	45
Zinc [1,3,4,5] (Gold Paintstik only)	7440-66-6	1.5

MARKAL "B" Paintstik was tested by an independent laboratory and found to be non-toxic, non-irritating to the skin and eyes within the meaning of the U.S. Federal Hazardous Substance Labeling Act.

(For Section 2 footnotes: See Section 15)

Section 3 Hazards Identification

EMERGENCY OVERVIEW
This product is non-hazardous as supplied for shipping, handling, and storage. Note that waste rags soaked with this product may spontaneously catch fire if improperly discarded.

FOR INDUSTRIAL USE ONLY.

POTENTIAL HEALTH EFFECTS
Primary Exposure Routes: Eyes, Ingestion, Inhalation
Acute Effects
Eyes: Contact may cause mild eye irritation including stinging, watering, and redness. Irritating fumes may be produced during the paint drying process if exposed to large surface area.
Skin: None.
Ingestion: Possible nausea or diarrhea if large amounts ingested.
Inhalation: Irritating fumes may be produced during the paint drying process if exposed to large surface area.
Chronic Effects
Eyes: Not applicable.
Skin: Not applicable.
Ingestion: Not applicable.
Inhalation: Not applicable.
Carcinogenicity:
ACGIH: Carbon Black has been identified by other sources as a suspected or confirmed human carcinogen.
IARC: Carbon Black is not classifiable as a human carcinogen (Group 3); human evidence is inadequate; animal evidence is inadequate.
Target Organ Effects: Not Applicable.
Medical Conditions Aggravated by Long-Term Exposure: Not Determined.
Other Information: Not Applicable.

Section 4 First Aid

Eye Contact: Flush with water.
Skin Contact: Use good industrial hygiene and wash hands after use.
Ingestion: Consult physician if discomfort occurs. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.
Inhalation: Move away from source of exposure and into fresh air. Consult physician if discomfort occurs.
Other Information: None.

Section 5 Fire Fighting Measures

Flash Point (method): 400°F/204°C (method not determined)
Autoignition Temperature: Not determined.
LEL: Not Determined. **UEL:** Not Determined.
Flammability Classification: Not determined.
Extinguishing Media: Carbon Dioxide, Foam, Dry Chemical.
Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide.
Unusual Fire or Explosion Hazards: Rags and waste paper containing this product may burn spontaneously. Store wiping rags containing this product in metal containers with tight lids.
Fire-Fighting Instructions/Equipment: Keep personnel removed and upwind of any fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Section 6 Accidental Release Measures

Use recommended personal protective equipment (see Section 8). Rags or waste paper containing this product may burn spontaneously. Dispose of wiping rags in metal containers with tight lids.
Small Spill: Sweep or scrape up.
Large Spill: Generally treat as a small spill. If large quantities are exposed to excessive heat, this product may melt. Allow melted material to cool and then scrape up.

Section 7 Handling and Storage

Handling Precautions: Use recommended personal protective equipment (see Section 8). Wash thoroughly after handling.
Storage Requirements: Store away from incompatible chemicals (see Sec. 10). Store in a cool, dry area.

Section 8 Exposure Controls/Personal Protection

Eye/Face Protection: Safety glasses. Use chemical goggles when marking on hot surfaces. Use a face shield as needed.
Skin/Hand Protection: Suitable for related activities where this product is used.
Respiratory Protection: Suitable for related activities where this product is used.
Other Equipment: Eyewash.
Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control sources of dust or fumes.
Administrative Controls: Users of this product must be properly trained and qualified in its use.
Other Information: No food or beverage should be consumed in the work area. Wash thoroughly before eating, drinking, or smoking.

Section 9 Physical and Chemical Properties

Appearance/Physical State: Cylindrical crayon/solid
Odor: Linseed oil
Odor Threshold (ppm): Not Determined.
Specific Gravity (H_2O = 1): >1
Solubility - Water: Insoluble
- Fat: Soluble
Coefficient of Water/Oil Solubility: <1

Partition Coefficient (n-octanol/water): >1
pH: Not applicable.
Melting Point: Approximately 150°F/66°C
Boiling Point: Not determined.
Vapor Pressure (mm Hg at 20^0C): Not applicable.
Vapor Density (Air = 1): Not applicable.
Evaporation Rate (n-BuAc=1): Not applicable.
V.O.C. (U.S. Clean Air Act Section 111): 0%(w/w)
Flash Point (method): (see Section 5)
Autoignition Temperature: (see Section 5)
Flammability Classification: (see Section 5)
Unusual Fire or Explosion Hazards: (see Section 5)
Oxidizing Properties: Not Applicable.
Other Information: None.
Note: The physical data represented above are typical values and should not be construed as a specification.

Section 10 Stability and Reactivity

Chemical Stability: Stable
Hazardous Polymerization: May Occur
Conditions to Avoid: High surface area exposure can result in release of heat while paint is polymerizing (drying). Rags and waste paper containing this product may burn spontaneously. Store wiping rags containing this product in metal containers with tight lids.
Chemicals to Avoid: Oxidizers.
Hazardous Decomposition Products (non-thermal): Aldehydes (including acrolein) may be produced from atmospheric oxidation (drying).

Section 11 Toxicological Information

Sensitization to Product: Not Applicable.
Irritancy of Product: Possible irritation to eyes and upon inhalation.
Reproductive Toxicity: Not Applicable.
Teratogenicity: Not Applicable.
Mutagenicity: Not Applicable.

Further hazard information, if applicable, may be found in Section 3. Toxicological information regarding individual ingredients, if applicable, may be found in Section 2.

Section 12 Ecological Information

Mobility: Not Determined.
Degradability: Not Determined.
Accumulation: Not Determined.
Ecotoxicity: Not Determined.
Other Adverse Effects: Not Determined.

Section 13 Disposal Considerations

Dispose of in accordance with all applicable regulations.

The conditions of handling, storage, and use of this product are beyond our control and may be beyond our knowledge. For this and other reasons, LA-CO Industries, Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Section 14 Transport Information

D.O.T. (U.S.): Not Regulated.
TDG (Canada): Not Regulated.
IATA: Not Regulated.
ICAO: Not Regulated.
IMO: Not Regulated.
Australian Code for the Transport of Dangerous Goods
Dangerous Goods Class and Subsidiary Risk: Not Determined.

Section 15 Regulatory Information

Footnotes for Section 2:
1 Subject to the reporting requirements of SARA Title III, Section 313.
2 Appears on the California Safe Drinking Water and Toxic Enforcement Act (Prop. 65) Substances List.
3 Appears on the Massachusetts Substances List.
4 Appears on the New Jersey Right-To-Know Hazardous Substances List.
5 Appears on the Pennsylvania Hazardous Substances List.
6 Appears on the Canadian WHMIS Ingredient Disclosure List.

U.S.A.

OSHA Hazard Status: This product is not considered to be hazardous as defined by the U.S. OSHA HCS (29 CFR 1910.1200).
EPA SARA sec. 311/312 Hazard Categories: Not Applicable.
Toxic Substances Control Act (TSCA): All ingredients contained in this product are listed on the U.S. EPA TSCA Chemical Substance Inventory.
HMIS® Rating: Health 0, Flammability 1, Reactivity 0
NFPA® (704) Rating: Health 1, Flammability 1, Reactivity 0

CANADA

WHMIS Status: This product is not considered to be hazardous as defined by Canadian WHMIS Controlled Products Regulations.
WHMIS Rating: None.
WHMIS Risk Phrases: None.
WHMIS Precautionary Statements: None.
Domestic Substances List (DSL): All ingredients contained in this product are listed on the Canadian EPA (CEPA) Domestic Substances List (DSL).

E.U.

European Inventory of Existing Chemical Substances (EINECS): All ingredients contained in this product are listed on the European Inventory of Existing Chemical Substances (EINECS).
Categories of Danger (Labeling Information): None.
Risk (R) Phrases: None.
Safety (S) Phrases: None.

AUSTRALIA

Worksafe Australia Status: This product is not classified as hazardous according to criteria of Worksafe Australia.

HAZCHEM Code: None allocated.
Poisons Schedule Number: None allocated.

Further regulatory information regarding individual ingredients, if applicable, may be found in Section 2.

This product has been classified in accordance with the hazard criteria of the U.S. OSHA Hazard Communication Standard, the Canadian WHMIS Controlled Products Regulations, the British CHIP2 regulation 6, and the Australian NMRCWHS. This MSDS contains the information required by the above regulations and conforms to ANSI Z400.1-1993.

Section 16 Other Information

HMIS is a registered trademark of the National Paint and Coatings Association.

NFPA is a registered trademark of the National Fire Protection Association.

MSDS Prepared By: Director of Chemical Safety

The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

****** SECTION 1 - Product and Company Identification ******

Manufacturer: E.I. DuPont de Nemours & Co.
Dupont Performance Coatings
Wilmington, DE, 19898

Telephone: Product Information: (800) 441-7515
Medical Emergency: (800) 441-3637
Transportation Emergency: (800) 424-9300 (CHEMTREC)

PRODUCT NAME: "IMRON" PRIMER DRY TIME ACCELERATOR

PRODUCT CODE: VHY691 090710

Chemical Family: No Information Available

****** SECTION 2 - Composition, Information on Ingredients ******

CAS #	Ingredient	Concentration/ Range (%)	Exposure Limits**
141-78-6	ETHYL ACETATE		A 400.0 ppm O 400.0 ppm
77-58-7	DIBUTYL TIN DILAURATE		A 0.2 mg/m3 15 min STEL Sn A 0.1 mg/m3 Sn O 0.1 mg/m3 Sn

OSHA HAZARDOUS? Yes

** A = ACGIH, O = OSHA, D = Dupont, S = Supplier (For additional definition of terms, see Section 16). Limits are 8-hour TWA unless otherwise specified.

****** SECTION 3 - Hazards Information ******

Emergency Overview:
WARNING! FLAMMABLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

Potential Health Effects:
Inhalation:

****** SECTION 3 - Hazards Information ******
Cont'd

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ingestion:
May result in gastrointestinal distress.

Skin or eye contact:
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

ETHYL ACETATE
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: eyes respiratory system skin
Tests in laboratory animals have shown effects on any of the following organs/systems: blood kidneys liver

NOTE:
If a chemical listed above is not identified as a carcinogen it is not an "IARC, NTP, or OSHA carcinogen".

****** SECTION 4 - First Aid Measures ******

First Aid Procedures:
Inhalation:
If affected by inhalation of vapor or spray mist, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Ingestion:
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.

Skin or eye:
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash thoroughly with soap and water. If irritation occurs, contact a physician.

****** SECTION 5 - Firefighting Measures ******

Flash Point (Method)	20 deg F to below 73 deg F			Closed Cup
Approx. flammable limits	LFL	2.2 %	UFL 11.5 %	
Auto ignition temperature	427.0			Deg C

Hazardous Combustion Products:
CO, C02, smoke, and oxides of any heavy metals that are reported in

****** SECTION 5 - Firefighting Measures ******
Cont'd

"Composition, Information on Ingredients" section.
Extinguishing media:
Universal aqueous film-forming foam, carbon dioxide, dry chemical.
Special fire fighting procedures:
Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.
Fire & explosion hazards:
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

****** SECTION 6 - Accidental Release Measures ******

Procedures for cleaning up spills or leaks:
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor.

Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

****** SECTION 7 - Handling and Storage ******

Precautions to be taken in handling and storing:
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
OSHA/NFPA Storage Classification: IB
Other precautions:
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation , and gloves.

****** SECTION 8 - Exposure Controls or Personal Protection ******

Engineering controls and work practices:
Ventilation:
Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Personal Protective Equipment:
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.
Respiratory:
Do not breathe vapors or mists. Wear a properly fitted

****** SECTION 8 - Exposure Controls or Personal Protection ******
Cont'd

air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C) and particulate filter (NIOSH TC-84A) during application and until all vapors and spray mists are exhausted. In confined spaces, or in situations where continuous spray operations are typical, or if proper air-purifying respirator fit is not possible, wear a positive pressure, supplied-air respirator (NIOSH TC-19C). In all cases, follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area.

Protective clothing:

Neoprene gloves and coveralls are recommended.

Eye protection:

Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

****** SECTION 9 - Physical and Chemical Properties ******

Evaporation Rate	Slower than Ether
Vapor Pressure of principal solvent	93.20 mmHg @ 25 Deg C
Solubility of solvent in water	NIL
Vapor density of principal solvent (Air = 1)	3.00
Approx. Boiling range	77 - 78 DEG (C)
Approx. Freezing range	-84 DEG (C)
Gallon weight (lbs/gal)	7.54
Specific gravity	0.90
Percent volatile by volume	98.66
Percent volatile by weight	98.45
Percent solids by volume	1.34
Percent solids by weight	1.55
Odor	Characteristic Paint Odor
Appearance	Semi-viscous liquid
Physical state	Liquid
pH (waterborne systems only)	Not Applicable
VOC* less exempt (lbs/gal)	7.4
VOC* as packaged (lbs/gal)	7.4

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

****** SECTION 10 - Stability and Reactivity ******

Stability:

Stable

Incompatibility (materials to avoid):

None reasonably foreseeable

Hazardous decomposition products:

CO, C02, smoke, and oxides of any heavy metals that are reported in

****** SECTION 10 - Stability and Reactivity ******
Cont'd

"Composition, Information on Ingredients" section.

Hazardous polymerization:
Will not occur.

Sensitivity to static discharge:
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to mechanical impact: None Known

****** SECTION 11 - Toxicological Information ******

No Information Available

****** SECTION 12 - Ecological Information ******

No Information Available

****** SECTION 13 - Disposal Considerations ******

Waste disposal method:
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

****** SECTION 14 - Transportation Information ******.

No Information Available

****** SECTION 15 - Regulatory Information ******

TSCA Status:
In compliance with TSCA Inventory requirements for commercial purposes.

DSL Status:
All components of the mixture are listed on the DSL.

Photochemical Reactivity: Non-photochemically reactive

Other Regulatory Information:

CAS #	Ingredient	302	TPQ/RQ	EPCRA 311/312	313	CERCLA RQ(lbs)	HAP
141-78-6	ETHYL ACETATE	N	NR	C,F	N	5000	N
77-58-7	DIBUTYL TIN DILAURATE	N	NR	NA	N	NR	N

Key:
EPCRA: Emergency Planning and Community Right-to-Know Act (aka Title III, SARA)

****** SECTION 15 - Regulatory Information ******
Cont'd

302: Extremely hazardous substances
311/312 Categories: F = Fire Hazard A = Acute Hazard
R = Reactivity Hazard C = Chronic Hazard
P = Pressure Related Hazard
313 Information: Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP = Listed as a Clean Air Act Hazardous Air Pollutant
TPQ = Threshold planning quantity
RQ = Reportable quantity
NA = not available
NR = not regulated

****** SECTION 16 - Additional Information ******

HMIS Rating: H: 1 F: 3 R: 0
NFPA Rating: H: F: R:

Glossary of Terms:
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
STEL - Short term exposure limit
TWA - Time-weighted average
PNOR - Particles not otherwise regulated
PNOC - Particles not otherwise classified

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

MSDS prepared by:
Performance Coatings Regulatory Affairs Consultant.

SAFETY DATA SHEET

Revision Date 13-Apr-2016 **Version** 2

1. IDENTIFICATION

Product identifier
Product Name 116DA SILICONE SPRAY LUBRICANT 10.25OZ AE

Other means of identification
Product Code 80070
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Flammable Aerosol Lubricant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address	**Distributor**
ITW Permatex	ITW Permatex Canada
6875 Parkland Blvd.	35 Brownridge Road, Unit 1
Solon, OH 44139 USA	Halton Hills, ON Canada L7G 0C6
	Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Aspiration toxicity	Category 1
Flammable aerosols	Category 1
Gases under pressure	Liquefied gas

Label elements

Emergency Overview

Danger

May be fatal if swallowed and enters airways
Extremely flammable aerosol
Contains gas under pressure; may explode if heated

Appearance White **Physical state** Liquid Flammable Aerosol **Odor** Mild

Precautionary Statements - Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w 1,3-butadiene (EINECS No. 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the S-phrases (2-)9-16 (Table 3.2) should apply. This note applies only to certain complex oil-derived substances in Part 3

Unknown acute toxicity 2.5 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	10 - 30	*
BUTANE	106-97-8	10 - 30	*
PROPANE	74-98-6	3 - 7	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Call a physician or poison control center immediately. Do NOT induce vomiting.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Extremely flammable. Heating causes rise in pressure with risk of bursting.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Contents under pressure. Do not puncture or incinerate cans.

Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store locked up.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
BUTANE 106-97-8	STEL: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	TWA: 800 ppm TWA: 1900 mg/m³
PROPANE 74-98-6	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid; Flammable Aerosol
Appearance White
Odor Mild
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 38 °C / >100 °F	

Flash point	No information available	Gives a flame projection at full valve opening or flashback at any degree of valve opening
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	0.94	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	20%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks. Temperatures >50 °C / 122 °F.

Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye contact	Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis.
Ingestion	Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
BUTANE 106-97-8	-	-	= 658 g/m³ (Rat) 4 h
PROPANE 74-98-6	-	-	= 658 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Target Organ Effects Central nervous system.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 22274 mg/kg
ATEmix (dermal) 7700 mg/kg
ATEmix (inhalation-gas) 1337916 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

78.5 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT 64742-47-8	-	45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
BUTANE 106-97-8	2.89
PROPANE 74-98-6	2.3

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

14. TRANSPORT INFORMATION

DOT

UN/ID no	1950
Proper shipping name:	Aerosols, Limited Quantity (LQ)
Hazard Class	2.1
Emergency Response Guide Number	126

IATA

UN/ID no	ID 8000
Proper shipping name:	Consumer commodity
Hazard Class	9
ERG Code	9L

IMDG

UN/ID no	1950
Proper shipping name:	Aerosols, Limited Quantity (LQ)
Hazard Class	2.1
EmS-No	F-D, S-U

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not Listed.
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	Yes

Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
BUTANE 106-97-8	X	X	X
PROPANE 74-98-6	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
A Compressed gases, B5 - Flammable aerosol, D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 3	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 13-Apr-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 15-Jun-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name 116DA SILICONE SPRAY LUBRICANT 10.25OZ AE

Other means of identification
Product Code 80070
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Aerosol Lubricant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Aspiration toxicity	Category 1
Flammable aerosols	Category 1

Label elements

Emergency Overview

Danger

May be fatal if swallowed and enters airways
Extremely flammable aerosol

Appearance White **Physical state** Liquid Aerosol **Odor** Mild

Precautionary Statements - Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not spray on an open flame or other ignition source
Pressurized container: Do not pierce or burn, even after use

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Toxic to aquatic life with long lasting effects

Unknown acute toxicity 2.5 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
WATER	7732-18-5	30 - 60	*
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	10 - 30	*
BUTANE	106-97-8	10 - 30	*
PROPANE	74-98-6	3 - 7	*
POLYDIMETHYLSILOXANE	63148-62-9	3 - 7	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Call a physician or poison control center immediately. Do NOT induce vomiting.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Remove all sources of ignition. Contents under pressure. Do not puncture or incinerate cans.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store locked up.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
BUTANE 106-97-8	STEL: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	TWA: 800 ppm TWA: 1900 mg/m³
PROPANE 74-98-6	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid; Aerosol
Appearance White
Odor Mild
Odor threshold No information available

Property	Values	Remarks • Method

pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 38 °C / >100 °F	
Flash point	No information available	Gives a flame projection at full valve opening or flashback at any degree of valve opening
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	0.94	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	20%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks. Temperatures >50 °C / 122 °F.

Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye contact	Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis.

Ingestion Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
WATER 7732-18-5	> 90 mL/kg (Rat)	-	-
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
BUTANE 106-97-8	-	-	= 658 g/m³ (Rat) 4 h
PROPANE 74-98-6	-	-	= 658 mg/L (Rat) 4 h
POLYDIMETHYLSILOXANE 63148-62-9	> 17 g/kg (Rat)	> 2 g/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Target Organ Effects Central nervous system.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 22274 mg/kg
ATEmix (dermal) 7700 mg/kg
ATEmix (inhalation-gas) 1337916 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

78.5 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT 64742-47-8	-	45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
BUTANE 106-97-8	2.89
PROPANE 74-98-6	2.3

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.
US EPA Waste Number	D001

14. TRANSPORT INFORMATION

DOT

UN/ID no	1950
Proper shipping name:	Aerosols, Limited Quantity (LQ)
Hazard Class	2.1
Emergency Response Guide Number	126

IATA

UN/ID no	ID 8000
Proper shipping name:	Consumer commodity
Hazard Class	9
ERG Code	9L

IMDG

UN/ID no	1950
Proper shipping name:	Aerosols, Limited Quantity (LQ)
Hazard Class	2.1
EmS-No	F-D, S-U

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not Listed.
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
BUTANE 106-97-8	X	X	X
PROPANE 74-98-6	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 3	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 15-Jun-2015

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 18-Apr-2016 **Version** 3

1. IDENTIFICATION

Product identifier
Product Name 14H THREAD SEALANT W/PTFE 4 FL.OZ.

Other means of identification
Product Code 80632
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Sealant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Flammable liquids	Category 3

Label elements

Emergency Overview

Danger

Harmful if swallowed
May cause cancer
Causes damage to organs
Flammable liquid and vapor

Appearance White **Physical state** Paste **Odor** Alcoholic

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Take precautionary measures against static discharge

Precautionary Statements - Response
IF exposed: Call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
In case of fire: Use Water spray, fog or regular foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Not applicable

Unknown acute toxicity 65.99515 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
ETHANOL	64-17-5	10 - 30	*
2-PROPANOL	67-63-0	1 - 5	*
METHANOL	67-56-1	1 - 5	*
METHYL ISOBUTYL KETONE	108-10-1	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with soap and water. If symptoms persist, call a physician.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Flammable. Keep product and empty container away from heat and sources of ignition.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Store locked up.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ETHANOL 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³
2-PROPANOL 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m³ STEL: 500 ppm STEL: 1225 mg/m³
METHANOL 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³
METHYL ISOBUTYL KETONE 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m³ (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m³ (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 300 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection	Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.
Respiratory protection	Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Paste
Appearance	White
Odor	Alcoholic
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	82 °C / 180 °F	
Flash point	25 °C / 77 °F	Tag Closed Cup
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	12.7%	
Lower flammability limit:	2.3%	
Vapor pressure	33 mm Hg @ 68°F	
Vapor density	>1	Air = 1
Relative density	1.06-1.10	
Water solubility	Partially soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	29.5%%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides
Fluorides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
ETHANOL 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h
2-PROPANOL 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m^3 (Rat) 4 h
METHANOL 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
METHYL ISOBUTYL KETONE 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 8.2 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
ETHANOL 64-17-5	A3	Group 1	Known	X
METHYL ISOBUTYL KETONE 108-10-1	A3	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Chronic toxicity May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Contains a known or suspected reproductive toxin.
Target Organ Effects Blood, Central nervous system, Central Vascular System (CVS), Eyes, Gastrointestinal tract (GI), Liver, Reproductive System, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 1811 mg/kg
ATEmix (dermal) 6521 mg/kg
ATEmix (inhalation-dust/mist) 11.7 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

35.44605 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
ETHANOL 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50
2-PROPANOL 67-63-0	1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50	9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50	13299: 48 h Daphnia magna mg/L EC50
METHANOL 67-56-1	-	28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static	-
METHYL ISOBUTYL KETONE 108-10-1	400: 96 h Pseudokirchneriella subcapitata mg/L EC50	496 - 514: 96 h Pimephales promelas mg/L LC50 flow-through	170: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
ETHANOL 64-17-5	-0.32
2-PROPANOL 67-63-0	0.05
METHANOL 67-56-1	-0.77
METHYL ISOBUTYL KETONE 108-10-1	1.19

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
METHANOL	-	Included in waste stream:	-	U154

67-56-1		F039		
METHYL ISOBUTYL KETONE 108-10-1	-	Included in waste stream: F039	-	U161

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ETHANOL 64-17-5	Toxic Ignitable
2-PROPANOL 67-63-0	Toxic Ignitable
METHANOL 67-56-1	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no	1133
Proper shipping name:	Adhesives, Limited Quantity (LQ)
Hazard Class	3
Packing Group	III
Emergency Response Guide Number	128

IATA

UN/ID no	ID 8000
Proper shipping name:	Consumer commodity
Hazard Class	9
ERG Code	9L

IMDG

UN/ID no	1133
Proper shipping name:	Adhesives, Limited Quantity (LQ)
Hazard Class	3
Packing Group	III
EmS-No	F-E, S-D

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not Listed.
ENCS	Not Listed.
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
2-PROPANOL - 67-63-0	1.0
METHANOL - 67-56-1	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
METHANOL 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
METHYL ISOBUTYL KETONE 108-10-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
ETHANOL - 64-17-5	Carcinogen Developmental
TITANIUM DIOXIDE - 13463-67-7	Carcinogen
METHANOL - 67-56-1	Developmental
METHYL ISOBUTYL KETONE - 108-10-1	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
TALC 14807-96-6	X	X	X
ETHANOL 64-17-5	X	X	X
2-PROPANOL 67-63-0	X	X	X
TITANIUM DIOXIDE 13463-67-7	X	X	X
WATER 7732-18-5	-	-	X
METHANOL 67-56-1	X	X	X
POLYTETRAFLUOROETHYLENE 9002-84-0	-	-	X
METHYL ISOBUTYL KETONE 108-10-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class

B2 - Flammable liquid, D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 3	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 18-Apr-2016

Disclaimer

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End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**1620 Anti-spatter**
Version #	01
Issue date	13-February-2014
Revision date	-
Supersedes date	-
CAS #	Mixture
Product use	Protection against weld spatter.
Manufacturer information	
Manufacturer/Supplier	Harris Products Group 4501 Quality Place Mason, Ohio 45040 US custservmason@jwharris.com
Telephone number	513-754-2000
Emergency Telephone Numbers	1-888-609-1762 (US, Canada, Mexico only) Please quote 333988

2. Hazards Identification

Physical state	Liquid.
Appearance	Clear, colorless liquid.
Emergency overview	WARNING May be harmful if swallowed. May cause central nervous system effects. Causes skin and eye irritation. Suspect cancer hazard. May cause damage to the liver and kidneys.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Causes eye irritation.
Skin	Causes skin irritation.
Inhalation	High vapor concentrations are irritating to the eyes, nose, throat, and lungs. Exposure to high concentrations of vapor or mist may result in CNS effects such as headaches, nausea and narcosis.
Ingestion	May be harmful if swallowed. May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.
Chronic effects	Prolonged or repeated exposure may cause liver, kidney, and central nervous system damage.
Signs and symptoms	Irritation of eyes and mucous membranes. Skin irritation. Upper respiratory tract irritation. Headaches, dizziness and nausea.
Potential environmental effects	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Methylene chloride	75-09-2	73 - 84
Carbon dioxide	124-38-9	17

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.
Skin contact	Immediately flush thoroughly with water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to an unconscious person. Get medical attention.
Notes to physician	Treat symptomatically. Symptoms may be delayed.
General advice	Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties	Material may burn but not ignite readily.

Extinguishing media

Suitable extinguishing media	Dry chemical, foam, carbon dioxide.
Unsuitable extinguishing media	Water or foam (may cause frothing).

Protection of firefighters

Specific hazards arising from the chemical	Heated containers may rupture, explode or be thrown into the air. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.
Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear suitable protective equipment.
Fire fighting equipment/instructions	Containers close to fire should be removed or cooled with water.
Hazardous combustion products	Product may decompose upon heating to produce phosgene, halogenated compounds, carbon monoxide, and unidentified organic compounds.

6. Accidental Release Measures

Personal precautions	Ensure adequate ventilation. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Wear protective clothing as described in Section 8 of this MSDS. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for cleaning up	Collect for salvage or disposal. Collect any released materials with absorbent, non-combustible material into suitable containers. Clean surface thoroughly to remove residual contamination. Should not be released into the environment.

7. Handling and Storage

Handling	Avoid inhalation of vapors/spray and contact with skin and eyes. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment (See Section 8). Observe good industrial hygiene practices.
Storage	Keep container tightly closed and in a well-ventilated place. Keep away from incompatible material. Keep away from food, drink and animal feedingstuffs.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	50 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Methylene chloride (CAS 75-09-2)	STEL	125 ppm
	TWA	25 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	5000 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	174 mg/m3
		50 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	15000 ppm
	TWA	5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	25 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	50 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	50 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
Methylene chloride (CAS 75-09-2)	TWA	174 mg/m3
		50 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	27000 mg/m3
		15000 ppm
	TWA	9000 mg/m3
		5000 ppm
Methylene chloride (CAS 75-09-2)	STEL	1740 mg/m3
		500 ppm
	TWA	330 mg/m3
		100 ppm

Engineering controls Provide adequate ventilation and minimize the risk of inhalation of vapors and mists. Local exhaust is recommended. Shower, hand and eye washing facilities near the workplace are recommended.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields (or goggles).

Skin protection Chemical resistant clothing is recommended.

Respiratory protection If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance Clear, colorless liquid.

Physical state Liquid.

Form Liquid.

Color Colorless.

Odor Characteristic odor.

Odor threshold Not available.

pH Not available.

Vapor pressure 390 mm Hg

Vapor density 1.9 (Air = 1)

Boiling point 104 °F (40 °C)

Melting point/Freezing point Not applicable.

Solubility (water) Soluble in water.

Specific gravity 1.32 (H2O=1)

Flash point Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Auto-ignition temperature Not available.

Evaporation rate 14.5 (Butyl acetate = 1)

10. Chemical Stability & Reactivity Information

Chemical stability Stable under normal temperatures and pressures.

Conditions to avoid Avoid exposing aerosol containers to high temperatures or direct sunlight.

Incompatible materials Acids, alkalis, oxidizing agents, reactive halogens, or reactive metals.

Hazardous decomposition products None under normal temperatures and pressures. In the event of fire: See Section 5.

Possibility of hazardous reactions Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Methylene chloride (CAS 75-09-2)		
Acute		
Oral		
LD50	Rat	1600 mg/kg

Sensitization Not a skin sensitizer.

Acute effects May be harmful if swallowed. Exposure to high concentrations of vapor or mist may result in CNS effects such as headaches, nausea and narcosis.

Local effects Components of the product may be absorbed into the body through the skin. Causes skin and eye irritation.

Chronic effects Prolonged or repeated exposure may cause toxic effects to the central nervous system. Repeated or prolonged exposure to high concentrations may cause kidney and liver damage.

Carcinogenicity Suspect cancer hazard - may cause cancer.

ACGIH Carcinogens

Methylene chloride (CAS 75-09-2) A3 Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methylene chloride (CAS 75-09-2) 2B Possibly carcinogenic to humans.

US NTP Report on Carcinogens: Anticipated carcinogen

Methylene chloride (CAS 75-09-2) Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Methylene chloride (CAS 75-09-2) Cancer

Epidemiology No data available.

Mutagenicity No data available.

Reproductive effects May adversely affect the developing fetus based on animal data.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
Methylene chloride (CAS 75-09-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1250 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	140.8 - 277.8 mg/l, 96 hours

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Not available.

Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Methylene chloride (CAS 75-09-2) 1.25

Mobility in environmental media The product is soluble in water.

13. Disposal Considerations

Waste codes

US RCRA Hazardous Waste U List: Reference

Methylene chloride (CAS 75-09-2) U080

Disposal instructions Dispose of contents/container in accordance with all local, State and Federal regulations.

Waste from residues / unused products	Dispose in accordance with all local, state and federal regulations.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	AEROSOLS
Hazard class	2.2
Subsidiary hazard class	6.1

Additional information:

Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

2.2, 6.1

IATA

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	2.2
Subsidiary class(es)	6.1

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	2.2
Subsidiary class(es)	6.1

TDG

UN number	UN1950
Proper shipping name	AEROSOLS
Hazard class	2.2
Subsidiary hazard class	6.1
Marine pollutant	No

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methylene chloride (CAS 75-09-2)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Methylene chloride (CAS 75-09-2)	0.1 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Methylene chloride (CAS 75-09-2)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Methylene chloride: 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status Controlled

WHMIS classification D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Hazardous Substances (Director's): Listed substance

Carbon dioxide (CAS 124-38-9) Listed.
Methylene chloride (CAS 75-09-2) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Methylene chloride (CAS 75-09-2) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Methylene chloride (CAS 75-09-2) Listed: April 1, 1988 Carcinogenic.

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9) Listed.
Methylene chloride (CAS 75-09-2) Listed.

US. New Jersey Worker and Community Right-to-Know Act

Carbon dioxide (CAS 124-38-9)
Methylene chloride (CAS 75-09-2)

US. Pennsylvania Worker and Community Right-to-Know Law

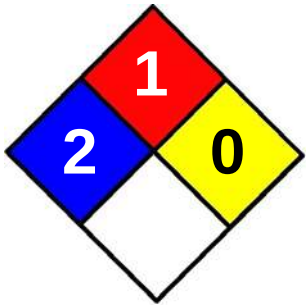
Carbon dioxide (CAS 124-38-9)
Methylene chloride (CAS 75-09-2)

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.
A HMIS® Health rating including an * indicates a chronic hazard.

HMIS® ratings Health: 2*
Flammability: 1
Physical hazard: 0

NFPA Ratings



Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.

Permatex, Inc.
10 Columbus Blvd.
Hartford, CT 06106 USA
Telephone: 1-87-Permatex
(877) 376-2839
Emergency: 800-255-3924
International Emergency: 813-348-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: **1B FORM-A-GASKET #1 SEALANT 3OZ**
Item No: **80002**
Product Type: **Sealant**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percent	ACGIH 8 Hr. TWA:	OSHA 8 Hr. TWA:
KAOLIN 1332-58-7	50-60	2 mg/m^3 dust	10 mg/m^3 dust; 5 mg/m^3 respir.
ROSIN 8050-09-7	20-30	sensitizer; reduce exposure to as low as possible	15 mg/m^3 total dust; 5 mg/m^3 respir.
2-PROPANOL 67-63-0	10-20	400 ppm TWA; 983 mg/m^3 TWA	400 ppm TWA
VEGETABLE OIL 68187-84-8	1-10	Not Listed	Not Listed
TITANIUM DIOXIDE 13463-67-7	1-10	10 mg/m^3	10 mg/m^3; 15 mg/m^3 total dust
LECITHIN 8002-43-5	1-10	Not Listed	Not Listed

3. HAZARDS IDENTIFICATION

Toxicity: May cause eye, skin and respiratory irritation. Oral LD50 greater than 5000 mg/kg. This product contains encapsulated silicon dioxide (quartz silica). No exposure to free respirable silica is anticipated during normal use of this product. Silica may be released by grinding or machining of coated material. Use NIOSH-approved dust/mist respirator when grinding or machining.

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Signs and Symptoms of Exposure: Excessive accidental exposure may cause headache, dizziness, nausea and mild respiratory irritation. Overexposure may cause eye and skin redness.

Ingredients	Percent	NTP:	ACGIH Carcinogens	IARC:
TITANIUM DIOXIDE 13463-67-7	1-10			Group 3; Vol 47, pg 307, 1989

Medical Conditions Recognized as Being Aggravated by Exposure: Preexisting eye, skin and respiratory disorders may be aggravated by overexposure to this product.

4. FIRST AID MEASURES

Ingestion: If swallowed, DO NOT induce vomiting. Drink water or milk. Seek medical attention immediately.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. Oxygen or artificial respiration if needed. Obtain medical attention.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes If skin irritation persists, call a physician

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point (°F/C): Does not apply. Per ASTM D4359 this product is a solid.

Recommended Extinguishing Media: Carbon Dioxide, Dry Chemicals, Foam.

Special Fire-Fighting Procedures: Firefighters should wear self-contained breathing apparatus. Water spray may be ineffective on flames but should be used to keep fire-exposed containers cool.

Hazardous Products Formed by Fire or Thermal Decomposition: Aldehydes, Oxides of carbon. Carboxylic acids

Unusual Fire/Explosion Hazards: Closed containers may rupture or explode when exposed to extreme heat.

Lower Explosive Limit: 2
Upper Explosive Limit: 12

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Eliminate all sources of ignition. Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal. Residues may be cleaned up with isopropyl alcohol.

7. HANDLING AND STORAGE

Storage: Store away from heat, sparks or open flame. Do not store at temperatures above 120 degrees F.
Handling: Avoid contact with skin and eyes. Do not inhale vapors. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: Safety glasses.
Skin: rubber or plastic gloves
Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.
Respiratory Protection: An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Reddish brown paste
Odor: ALCOHOLIC
Boiling Point (°F): 180 degrees F.
pH: Does not apply
Solubility in Water: Partial
Specific Gravity: 1.5
VOC Content(Wt.%): 15.4 % by weight; 231 g/l
Vapor Pressure: 33 mm Hg @ 68 degrees F.
Vapor Density (Air=1): 2.07
Evaporation Rate: 7.7 (ether = 1)

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal conditions
Hazardous Polymerization: WILL NOT OCCUR
Incompatabilities: Strong oxidizers.
Conditions to Avoid: Keep away from heat, sparks and open flame.
Hazardous Products Formed by Fire or Thermal Decomposition: Aldehydes, Oxides of carbon. Carboxylic acids

11. TOXICOLOGICAL INFORMATION

See Section 3

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49CFR 172)

Domestic Ground Transport

DOT Shipping Name: Unrestricted
Hazard Class: NONE
UN/ID Number: None
Marine Pollutant: None

IATA

Proper Shipping Name: not regulated
Class or Division: None

UN/NA Number: None

IMDG

Proper Shipping: Unrestricted
Hazard Class: None
UN Number: None

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

SARA 313 Information
NONE

CALIFORNIA PROP 65:
No California Prop 65 chemicals are known to be present.

TSCA Inventory Status:
Listed on Inventory: YES All components of this product are listed (or exempt) on the EPA TSCA inventory.

16. OTHER INFORMATION

Estimated NFPA Rating: HEALTH 2, FLAMMABILITY 1 , REACTIVITY 0
Estimated HMIS Classification: HEALTH 2, FLAMMABILITY 1, PHYSICAL HAZARD 0
NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Denise Boyd, Health and Safety Manager
Company: Permatex. Inc. 10 Columbus Blvd. Hartford, CT USA 06106
Telephone Number: 1-87-Permatex (877) 376-2839

Revision Date: 03/03/2004
Revision Number: 3

ITEM: 24WJ88 - Hand Cleaning Towels 10W x 12In. L

MSDS: C7608 **ORDER: 0145846678** **LP NUMBER: U262615864-A**

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

##

MATERIAL SAFETY DATA SHEET - C7608

Associated Grainger Items
1CG47, 1PA20, 24WJ86, 24WJ89, 24WJ90, 24WJ91, 36P441

ITW PROFESSIONAL BRANDS

MATERIAL SAFETY DATA SHEET

PREPARED: 29 JANUARY 2013

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT(S): SCRUBS(R*) HAND CLEANER TOWELS

FORMULA: B422

PART NUMBER(S): 42201, 42210, 42225, 42230, 42256, 42260, 42272, 42280

COMPANY NAME & ADDRESS:
ITW PROFESSIONAL BRANDS
805 E. OLD 56 HWY.
OLATHE, KS 66061

800-443-9536 (8 A.M. - 5 P.M. WEEKDAYS, CDT)

EMERGENCY NUMBERS:
IN CASE OF EMERGENCY, CALL INFOTRAC @ 1-800-535-5053, 24 HRS.

INTERNATIONAL EMERGENCY NUMBER: 352-323-3500

POISON CONTROL CENTER: 1-800-222-1222

MATERIAL SAFETY DATA SHEETS: WWW.ITWPROFESSIONALBRANDS.COM

SECTION 2 - HAZARDS IDENTIFICATION

CAUTION. MAY CAUSE MILD EYE OR SKIN IRRITATION.

POTENTIAL HEALTH EFFECTS:

EYES: MAY CAUSE MILD EYE IRRITATION.

SKIN: MAY CAUSE MILD SKIN IRRITATION.

INHALATION: NOT A LIKELY EXPOSURE ROUTE.

INGESTION: NOT A LIKELY EXPOSURE ROUTE.

SIGNS/SYMPTOMS OF EXPOSURE:
REDNESS, TEARING OR BURNING IN EYES. REDNESS, BURNING, DRYING OR CRACKING OF SKIN. IRRITATION OF THE THROAT OR STOMACH, NAUSEA, VOMITING, DIARRHEA IF SWALLOWED.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
PRE-EXISTING SKIN CONDITIONS SUCH AS DERMATITIS MAY BE ADVERSELY AFFECTED BY THIS AND OTHER OIL AND GREASE EFFECTIVE CLEANERS.

HMIS RATING:
HEALTH 1
FLAMMABILITY 0
REACTIVITY 0
PERSONAL PROTECTION NONE

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT RANGE
WATER	7732-18-5	60 - 100
ETHOXYLATED ALCOHOLS (C12-15 PARETH-7)	68131-39-5	1 - 5
ISOPARAFFIN	64742-47-8	0.5 - 1.5
DIMETHYL GLUTARATE	1119-40-0	0.5 - 1.5
FRAGRANCE	MIXTURE	0.5 - 1.5

ANY SUBSTANCE LISTED AS HAZARDOUS BY THE STATES OF CALIFORNIA, FLORIDA, ILLINOIS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA OR TEXAS IS DESCRIBED ABOVE IF KNOWN PRESENT IN REGULATED CONCENTRATIONS.

SECTION 4 - FIRST AID MEASURES

EYES:
IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. IF IRRITATION PERSISTS SEEK MEDICAL ATTENTION.

SKIN:
NONE USUALLY REQUIRED. MATERIAL IS DESIGNED FOR SKIN CLEANSING. IF SYMPTOMS DEVELOP SEEK MEDICAL ATTENTION.

INHALATION:
UNLIKELY ROUTE AS LIQUID IS IMPREGNATED ON A TOWEL, MINIMIZING EXPOSURE VIA THIS ROUTE. IF OVEREXPOSED MOVE TO FRESH AIR. IF SYMPTOMS DEVELOP SEEK MEDICAL ATTENTION.

INGESTION:
NOT A LIKELY EXPOSURE ROUTE. IF A LARGE QUANTITY OF LIQUID IS SWALLOWED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT (PMCC): NONE TO BOILING, SOLUTION ON TOWEL.

EXTINGUISHING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, FOAM, FOG OR WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES:
KEEP CONTAINERS COOL AND VAPORS DOWN WITH WATER SPRAY. PREVENT RUNOFF FROM ENTERING SEWERS AND PUBLIC WATERWAYS.

HAZARDOUS PRODUCTS OF COMBUSTION:
CARBON MONOXIDE, CARBON DIOXIDE, VARIOUS HYDROCARBONS, HYDROGEN SULFIDE, SULFUR DIOXIDE AND SOOT.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

SMALL SPILL:
WIPE UP SMALL RELEASES WITH A DRY ABSORBENT CLOTH OR OTHER ABSORBENT MATERIAL.

LARGE SPILL:
ABSORB LIQUID WITH VERMICULITE, ABSORBENT CLOTH, OR OTHER ABSORBENT MATERIAL. PREVENT MATERIAL FROM ENTERING SEWERS AND DRAINS. VENTILATE AREA AND BLOCK TRAFFIC. TRANSFER CONTAMINATED MATERIAL INTO SUITABLE CONTAINER FOR PROPER DISPOSAL.

SECTION 7 - HANDLING AND STORAGE

HANDLING:
DO NOT ALLOW TOWEL CONTACT WITH EYES. FOR EXTERNAL USE ONLY. NOT FOR USE AROUND THE MOUTH OR EYES FOR AN EXTENDED PERIOD OF TIME. DO NOT SMOKE WHILE USING. USE FROM ORIGINAL CONTAINER ONLY AND FOLLOW LABEL DIRECTIONS CAREFULLY. FOLLOW GOOD CHEMICAL HYGIENE PRACTICES WHEN HANDLING THIS MATERIAL.

STORAGE:
KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP AWAY FROM HEAT SOURCES. STORE IN A COOL WELL-VENTILATED AREA. KEEP OUT OF REACH OF CHILDREN. DO NOT CONTAMINATE WATER, FOOD OR FEED BY USE OR STORAGE. KEEP FROM FREEZING.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
VENTILATION NOT USUALLY NECESSARY BUT SHOULD BE PROVIDED IN THE EVENT OF OVEREXPOSURE.

EXPOSURE LIMITS:
ISOPARAFFIN (CAS# 64742-47-8): 150 PPM, MANUFACTURER'S RECOMMENDATION

EYE PROTECTION:
NONE NECESSARY. DO NOT ALLOW TOWEL TO DIRECTLY CONTACT EYES.

SKIN PROTECTION: NONE NECESSARY. PRODUCT IS DESIGNED FOR DIRECT SKIN USE.

RESPIRATORY PROTECTION:
NOT USUALLY NECESSARY. IF VAPORS ARE PRESENT OR IRRITATION IS EXPERIENCED, USE NIOSH/MSHA APPROVED RESPIRATOR.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR:
COLORLESS LIQUID WITH A ORANGE SCENT SATURATED ONTO TOWELS.

PH: 7.1 +/- 0.5

BOILING POINT: 212 F

SPECIFIC GRAVITY: 1.000

VAPOR DENSITY: >1

VAPOR PRESSURE: NO DATA

SOLUBILITY IN WATER: MISCIBLE

EVAPORATION RATE: NO DATA

VOLATILE ORGANIC COMPOUNDS (VOCS): 0% BY WEIGHT

SECTION 10 - STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION:
THIS PRODUCT WILL NOT UNDERGO HAZARDOUS POLYMERIZATION.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN SULFIDE, SULFUR DIOXIDE AND SOOT.

CHEMICAL STABILITY: STABLE

INCOMPATIBLE MATERIALS: STRONG OXIDIZERS AND STRONG ACIDS.

SECTION 11 - TOXICOLOGICAL INFORMATION

ETHOXYLATED ALCOHOLS, CAS# 68131-39-5:
ACUTE DERMAL LD50: <5 G/KG, RABBIT
ACUTE ORAL LD50: 1.6-2.7 G/KG, RAT

SECTION 12 - ECOLOGICAL INFORMATION

ETHOXYLATED ALCOHOLS, CAS# 68131-39-5:
96 HR FATHEAD MINNOW STATIC ACUTE LC50: 2.7 MG/L
48 HR DAPHNIA ACUTE EC50: 0.4 0.75 MG/L

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

WASTE INFORMATION:
IF THIS PRODUCT BECOMES A WASTE, IT WOULD NOT BE HAZARDOUS AS DEFINED BY RCRA (40CFR261). HOWEVER THE WASTE SHOULD BE PROPERLY EVALUATED IN CASE OF MODIFICATION PRIOR TO DISPOSAL.

SECTION 14 - TRANSPORT INFORMATION

THE FOLLOWING TRANSPORTATION INFORMATION IS BASED ON DEPARTMENT OF TRANSPORTATION REGULATIONS FOUND IN 49 CFR. IF SHIPPING THIS PRODUCT BY AIR PLEASE REFER TO INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) DANGEROUS GOODS REGULATIONS. IF SHIPPING THIS PRODUCT BY OCEAN PLEASE REFER TO INTERNATIONAL MARITIME DANGEROUS GOODS REGULATIONS (IMDG). TO FIND HOW TO SHIP THIS PRODUCT PLEASE REFER TO THE UN# LISTED BELOW.

DOT INFORMATION:
UN #: NONE
PROPER SHIPPING DESCRIPTION: NOT REGULATED
HAZARD CLASS: NONE
PACKING GROUP: NONE

MARINE POLLUTANTS: NONE

SECTION 15 - REGULATORY INFORMATION

US FEDERAL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA):
ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR EXEMPT FROM LISTING.

CERCLA RQ: NONE

SARA 313 COMPONENTS: NONE

STATE AND LOCAL REGULATIONS:
CALIFORNIA PROPOSITION 65: NONE

NSF REGISTRATION CATEGORY CODE: B4, #138879

SECTION 16 - OTHER INFORMATION

WARNING!

THE USE OF THIS PRODUCT IS BEYOND THE CONTROL OF THE MANUFACTURER; THEREFORE, NO GUARANTEE, EXPRESSED OR IMPLIED, IS MADE AS TO THE EFFECTS OF SUCH OR THE RESULTS TO BE OBTAINED IF NOT USED IN ACCORDANCE WITH DIRECTIONS OR ESTABLISHED SAFE PRACTICE. THE USER MUST ASSUME ALL RESPONSIBILITY, INCLUDING INJURY OR DAMAGE, RESULTING FROM ITS MISUSE AS SUCH, OR IN COMBINATION WITH OTHER MATERIALS. THE MANUFACTURER WARRANTS ONLY THAT THIS PRODUCT MEETS THE MANUFACTURER'S SPECIFICATIONS FOR SUCH PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, AND MERCHANTABILITY. FITNESS FOR ANY PARTICULAR PURPOSE, PRODUCTIVENESS OR ANY OTHER MATTER, OF THIS PRODUCT. THE MANUFACTURER SHALL BE IN NO WAY RESPONSIBLE FOR THE IMPROPER USE OF THIS PRODUCT. THE SOLE AND EXCLUSIVE REMEDY AGAINST THE MANUFACTURER FOR BREACH OF WARRANTY SHALL BE REIMBURSEMENT OF THE PURCHASE PRICE OF THE PRODUCT IN THE EVENT THAT A DEFECTIVE CONDITION OF THE PRODUCT SHALL BE FOUND TO EXIST. NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE.

ATT Bill Bullard

MATERIAL SAFETY DATA SHEET

L-4715-C
January 1993

An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.
(Essentially similar to US Department of Labor Form OMB No. 1218-0072)
Do Not Duplicate This Form. Request an Original.

PRAXAIR

HMIS®

H HEALTH 1
F FLAMMABILITY 0
R REACTIVITY 0
PERSONAL PROTECTION B

I. PRODUCT IDENTIFICATION

PRODUCT	25% Carbon Dioxide—75% Argon Mixture		
CHEMICAL NAME	Carbon Dioxide—Argon Mixture	**SYNONYMS**	C-25 Shielding Gas
FORMULA	Mixture of CO_2 and Ar	**CHEMICAL FAMILY**	Not applicable
		MOLECULAR WEIGHT	Not applicable
TRADE NAME	C-25 Shielding Gas (This product is intended for electric welding use.)		

II. HAZARDOUS INGREDIENTS

This section covers the materials from which this product is manufactured. The fumes and gases produced during cutting with the normal use of this product are covered by Section VI. The term "hazardous" should be interpreted as a term required and defined in OSHA 29 CFR 1910.1200 and does not necessarily imply the existence of any hazard.

MATERIAL (CAS NO.)	Wt (%)	1992-1993 ACGIH TLV-TWA (OSHA-PEL)	
Argon (7440-37-1)	75	Simple asphyxiant	(None currently established)
Carbon Dioxide (124-38-9)	25	5000 ppm	(10,000 ppm Short Term Exposure Limit [STEL] 15 min. 30,000 ppm)

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not applicable	**FREEZING POINT**	Not applicable
SPECIFIC GRAVITY (H_2O = 1)	Gas	**VAPOR PRESSURE AT 20°C.**	Gas
VAPOR DENSITY (air = 1)	1.42	**SOLUBILITY IN WATER, % by wt.**	Negligible
PERCENT VOLATILES BY VOLUME	100	**EVAPORATION RATE (Butyl acetate = 1)**	Not applicable

APPEARANCE AND ODOR Colorless, odorless gas at normal temperature and pressure.

EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times:

Call CHEMTREC 800-424-9300 only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals. For routine information contact your supplier.

This product is subject to the Pennsylvania Worker and Community Right-To-Know Act (35 P.S. Sections 7301-7320).

Praxair requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

PRAXAIR, INC.

Printed on recycled paper.

L-4715-C

PRODUCT: 25% Carbon Dioxide—75% Argon Mixture

L-4715-C
January 1993

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: The ACGIH 1992-1993 recommended limit for welding fume, not otherwise classified (NOC), is 5 mg/m³. TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations. See Section VI for specific fume constituents which may modify this TLV-TWA. Carbon dioxide TLV 5000 ppm, argon is classified as a simple asphyxiant (ACGIH 92-93).

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

SWALLOWING—This product is a gas at normal temperature and pressure.

SKIN ABSORPTION—No evidence of adverse effects from available information.

INHALATION—Asphyxiant. Moderate concentrations may cause headache, drowsiness, dizziness, stinging of the nose and throat, excitation, rapid breathing, excess salivation, vomiting, and unconsciousness.

SKIN CONTACT—No evidence of adverse effects from available information.

EYE CONTACT—No evidence of adverse effects from available information.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: No evidence of adverse effects from available information.

OTHER EFFECTS OF OVEREXPOSURE: Damage to retinal ganglion cells and central nervous system may occur.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: A knowledge of the available toxicology information and of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION: A single study has shown an increase in heart defects in rats exposed to 6% carbon dioxide in air for 24 hours at different times during gestation. There is no evidence that carbon dioxide is teratogenic in humans.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING—This product is a gas at normal temperature and pressure.

SKIN—No emergency care anticipated.

INHALATION—Remove to fresh air. Give artificial respiration if not breathing. Qualified personnel may give oxygen if breathing is difficult. Obtain medical attention.

EYE CONTACT—Flush with water. Obtain medical attention if discomfort persists.

NOTES TO PHYSICIAN: *There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.*

WORKING WITH WELDING AND CUTTING MAY CREATE ADDITIONAL HEALTH HAZARDS

FUMES AND GASES can be dangerous to your health and may cause serious lung disease.*

Keep your head out of the fumes. Do not breathe fumes and gases caused by the process. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. The type and amount of fumes and gases depend on the equipment and supplies used. Possibly dangerous materials may be found in fluxes, coatings, gases, metals, etc. Get a Material Safety Data Sheet (MSDS) for every material used. Air samples can be used to find out what respiratory protection is needed.

Short term overexposure to fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.

NOTES TO PHYSICIAN:

Acute — *Gases, fumes, and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty breathing, frequent coughing, or chest pains.*

Chronic — *Protracted inhalation of air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest X-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on X-rays may be caused by non-work related factors such as smoking, etc.*

A detailed description of the Health Hazards and their consequences may be found in Praxair's free publication, L-52-529, "Precautions and Safe Practices for Electric Welding and Cutting." You may obtain copies from your local supplier or by writing to Praxair, Inc., Technical Communications, PO Box 44, Tonawanda, NY 14151-0044.

MIXTURES: When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before your produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

PRODUCT: 25% Carbon Dioxide—75% Argon Mixture

L-4715-C
January 1993

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	Not applicable	**AUTOIGNITION TEMPERATURE**	Not applicable
FLAMMABLE LIMITS IN AIR, % by volume	**LOWER** Not applicable	**UPPER**	No applicable

EXTINGUISHING MEDIA: Gas mixture cannot catch fire. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance until cool, then move containers away from fire area if without risk. Shut off leak if without risk.

Arcs and sparks can ignite combustibles. Refer to American National Standard Z49.1 "Safety in Welding and Cutting," for fire prevention information during the use of welding and allied procedures.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Gas mixture cannot catch fire. Container may rupture due to heat of fire. No part of a container should be subjected to a temperature higher than 52°C (approximately 125°F). Most containers are provided with a pressure-relief device designed to vent the contents when they are exposed to elevated temperature.

VI. REACTIVITY DATA

STABILITY	
UNSTABLE	**STABLE**
	X

CONDITIONS TO AVOID: See Section IX.

INCOMPATIBILITY (materials to avoid): Titanium burns in carbon dioxide above 550°C. Magnesium burns in carbon dioxide above 775°C.

HAZARDOUS DECOMPOSITION PRODUCTS: The arc process may form gaseous reaction products such as carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. See Section IV. Other decomposition products of normal operation originate from the volatilization, reaction or oxidation of the material being worked.

HAZARDOUS POLYMERIZATION	
May Occur	**Will not Occur**
	X

CONDITIONS TO AVOID: None currently known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: This gas mixture is an asphyxiant. Evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off cylinder if without risk. Ventilate area of leak or move cylinder to well-ventilated area. Test area, especially confined areas, for sufficient oxygen content prior to permitting re-entry of personnel.

WASTE DISPOSAL METHOD: Slowly release into atmosphere. Discard any product, residue, disposable container or liner in an environmentally acceptable manner in full compliance with federal, state and local regulations.

PRODUCT: 25% Carbon Dioxide—75% Argon Mixture

L-4715-C
January 1993

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): Use air-purifying or air-supplied respirators as appropriate, where the local and/or the general exhaust ventilation is not adequate to keep worker's exposure below the applicable TLVs during welding operations with this product. Air-supplied respirator is required while working in confined spaces. The respiratory protection use must conform with OSHA rules as specified in 29 CFR 1910.134.

VENTILATION	**LOCAL EXHAUST**—Use local exhaust system, if necessary, to maintain the concentration of hazardous fumes and gases below the applicable TLVs in the worker's breathing zone.
	MECHANICAL (general)—Under certain conditions, general exhaust ventilation may be acceptable provided that it is adequate to maintain the concentration of hazardous fumes and gases below the applicable TLVs in the worker's breathing zone.
	SPECIAL—None.
	OTHER—None.

PROTECTIVE GLOVES: Welding gloves recommended.

EYE PROTECTION: Wear a helmet or use a face shield with a filter lens selected as per ANSI Z49.1. Provide protective screens and flash goggles, if necessary, to protect others. Select in accordance with OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: As needed, wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the worker not to touch live electrical parts.

IX. SPECIAL PRECAUTIONS

Fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being worked, the process, procedure and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being worked (such as paint, plating, or galvanizing), the number of workers and the volume of the work area, the quality and amount of ventilation, the position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). Train workers to keep their head out of the fumes. Avoid using electric arcs in the presence of chlorinated hydrocarbon vapors—highly toxic phosgene may be produced. Avoid arc operations on parts with phosphate residues (anti-rust, cleaning preparations)—highly toxic phosphine may be produced.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the worker's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1, available from the American Welding Society, 550 N.W. Le Jeune Road, Miami, FL 33135.

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society and OSHA Publication 2206 (29 CFR 1910), US Government Printing Office, Washington, DC 20402 for more details. For further safety and health information refer to Praxair's free safety booklet, L-52-529, "Precautions and Safe Practices for Electric Welding and Cutting."

OTHER HANDLING AND STORAGE CONDITIONS: Arcs and sparks during use could be the source of ignition of combustible materials. Prevent fires. Refer to NFPA 518, "Cutting and Welding Processes." High pressure gas mixture. Use piping and equipment adequately designed to withstand pressures to be encountered. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve when not in use and when empty. Do not strike arc on cylinder. The defect produced by an arc burn could lead to cylinder rupture. Do not ground cylinder or allow to become part of electrical circuit. Never work on a pressurized system.

PRAXAIR

GENERAL OFFICES
Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113

SAFETY DATA SHEET

Revision Date 20-May-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name 3.5 ICS Poly Clear Base C/B (Part A)

Other means of identification
Product Code IG-0230
UN/ID no. UN1263
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Flammable liquids	Category 3

Emergency Overview

Danger

Hazard statements
May cause genetic defects
May cause cancer
Flammable liquid and vapor

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ ventilating/ lighting/ equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
Unknown acute toxicity 0.77% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Butyl Acetate	123-86-4	10 - 30	*
Methyl Amyl Ketone	110-43-0	10 - 30	*
2,4 Pentane Dione	123-54-6	1 - 5	*
Aromatic 100	64742-95-6	0.1 - 1	*
Stoddard Solvent	8052-41-3	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with plenty of water.

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Butyl Acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m³ (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m³ (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m³	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m³ STEL: 200 ppm STEL: 950 mg/m³
Methyl Amyl Ketone 110-43-0	TWA: 50 ppm	TWA: 100 ppm TWA: 465 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 465 mg/m³	IDLH: 800 ppm TWA: 100 ppm TWA: 465 mg/m³
2,4 Pentane Dione 123-54-6	TWA: 25 ppm S*	-	-
Stoddard Solvent 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m³	IDLH: 20000 mg/m³ Ceiling: 1800 mg/m³ 15 min TWA: 350 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special technical protective measures are necessary.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance No information available
Color No information available

Odor No information available
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 118 °C / 244 °F	
Flash point	30 °C / 86 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		

Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.00
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	8.35 lbs/gal
Bulk density	No information available
Percent solids by weight	63.5%
Percent volatile by weight	36.5%
Percent solids by volume	57.8%
Actual VOC (lbs/gal)	3
Actual VOC (grams/liter)	365.1
EPA VOC (lbs/gal)	3
EPA VOC (grams/liter)	365.1
EPA VOC (lb/gal solids)	5.3

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	No data available
Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Butyl Acetate 123-86-4	= 10768 mg/kg (Rat)	> 17600 mg/kg (Rabbit)	= 390 ppm (Rat) 4 h
Methyl Amyl Ketone 110-43-0	= 1600 mg/kg (Rat) = 1670 mg/kg (Rat)	= 12.6 mL/kg (Rabbit) = 12600 µL/kg (Rabbit)	> 2000 ppm (Rat) 4 h
2,4 Pentane Dione 123-54-6	= 55 mg/kg (Rat)	= 810 µL/kg (Rabbit)	= 1224 ppm (Rat) 4 h
Aromatic 100 64742-95-6	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

0.83% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Butyl Acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	72.8: 24 h Daphnia magna mg/L EC50
Methyl Amyl Ketone 110-43-0	-	126 - 137: 96 h Pimephales promelas mg/L LC50 flow-through	-
2,4 Pentane Dione 123-54-6	-	98.3 - 110: 96 h Pimephales promelas mg/L LC50 flow-through 50.3 - 71.8: 96 h Lepomis macrochirus mg/L LC50 flow-through 64.1 - 80.1: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	34.4: 48 h Daphnia magna mg/L EC50
Aromatic 100 64742-95-6	-	9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Butyl Acetate 123-86-4	1.81

Methyl Amyl Ketone 110-43-0	1.98
2,4 Pentane Dione 123-54-6	0.34

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Butyl Acetate 123-86-4	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class Class 3, Flammable Liquid

Packing Group III
Special Provisions B1, B52, IB3, T2, TP1, TP29
Description UN1263, Paint, Class 3, Flammable Liquid, III
Emergency Response Guide Number 128

TDG

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III
Description UN1263, Paint, 3, III

MEX

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III
Description UN1263, Paint, 3, III

ICAO (air)

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III
Special Provisions A3, A72
Description UN1263, Paint, 3, III

IATA

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
ERG Code	3L
Special Provisions	A3, A72
Description	UN1263, Paint, 3, III

IMDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
EmS-No.	F-E, S-E
Special Provisions	163, 223, 955
Description	UN1263, Paint, 3, III

RID

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1
Description	UN1263, Paint, 3, III

ADR

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640E, 650
Description	UN1263, Paint, 3, III, (D/E)
Labels	3

ADN

Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1
Special Provisions	163, 640E, 650
Description	UN1263, Paint, 3, III
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Complies *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Complies *
AICS	Complies *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Butyl Acetate 123-86-4	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Butyl Acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Butyl Acetate 123-86-4	X	X	X
Methyl Amyl Ketone 110-43-0	X	X	X
2,4 Pentane Dione 123-54-6	X	X	X
Stoddard Solvent 8052-41-3	X	X	X
1,2,4-Trimethylbenzene 95-63-6	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

This product contains no reportable Hazardous Air Pollutants

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2 *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = *Chronic Health Hazard*

Revision Date 20-May-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	15.04
Issue Date:	01/23/17	**Supercedes Date:**	01/16/17

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0069-6344-4, 70-0069-6870-8, 70-0069-6871-6, 70-0069-7043-1, 70-0069-7049-8, 70-0069-7050-6, 70-0069-7053-0, 70-0069-7255-1, 70-0069-7269-2, 70-0069-7276-7, 70-0069-7277-5, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details
MANUFACTURER: 3M
DIVISION: Construction and Home Improvement Markets
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Store in a well-ventilated place.

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Protect from sunlight. Store in a well-ventilated place. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part

of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.9 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days

Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system |	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

		kidney and/or bladder				

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	Trade Secret 10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	22-4025-7	**Version Number:**	15.04
Issue Date:	01/23/17	**Supercedes Date:**	01/16/17

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3M USA SDSs are available at www.3M.com

Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	15.02
Issue Date:	01/05/17	**Supercedes Date:**	10/26/16

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0069-6344-4, 70-0069-6870-8, 70-0069-6871-6, 70-0069-7043-1, 70-0069-7049-8, 70-0069-7050-6, 70-0069-7053-0, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details
MANUFACTURER: 3M
DIVISION: Construction and Home Improvement Markets
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.

Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Store in a well-ventilated place.

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Protect from sunlight. Store in a well-ventilated place. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part

of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.9 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days

Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system |	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

		kidney and/or bladder				

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	Trade Secret 10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	22-4025-7	**Version Number:**	15.02
Issue Date:	01/05/17	**Supercedes Date:**	10/26/16

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Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	15.01
Issue Date:	10/26/16	**Supercedes Date:**	04/26/16

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0069-6344-4, 70-0069-7043-1, 70-0069-7049-8, 70-0069-7050-6, 70-0069-7053-0, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Construction and Home Improvement Markets
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Store in a well-ventilated place.
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Protect from sunlight. Store in a well-ventilated place. Store away from heat. Store away from

acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Hexane	110-54-3	ACGIH	TWA:50 ppm	SKIN
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.9 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available

Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	Trade Secret 10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	22-4025-7	**Version Number:**	15.01
Issue Date:	10/26/16	**Supercedes Date:**	04/26/16

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3M USA SDSs are available at www.3M.com

Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	15.00
Issue Date:	04/26/16	**Supercedes Date:**	02/24/16

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0069-6344-4, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Construction and Home Improvement Markets
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Store in a well-ventilated place.
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Protect from sunlight. Store in a well-ventilated place. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	ACGIH	TWA:50 ppm	Skin Notation
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Petroleum Distillates	64742-49-0	CMRG	TWA:50 ppm	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.9 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization
For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 900 mg/kg/day	13 weeks

			classification			
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard

Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	Trade Secret 10 - 20

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Issue Date:	04/26/16	**Supercedes Date:**	02/24/16

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Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	14.00
Issue Date:	02/24/16	**Supercedes Date:**	05/14/15

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Construction and Home Improvement Markets
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Acetone	67-64-1	20 - 30 Trade Secret *
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	ACGIH	TWA:50 ppm	Skin Notation
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Petroleum Distillates	64742-49-0	CMRG	TWA:50 ppm	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.9 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Molecular weight	*No Data Available*
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Dermal		LD50 estimated to be > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization
For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	

Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the	Rat	NOAEL	13 weeks

			data are not sufficient for classification		2,500 mg/kg/day	
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	Trade Secret 10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Issue Date:	02/24/16	**Supercedes Date:**	05/14/15

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Safety Data Sheet

Document Group:	22-4025-7	**Version Number:**	13.02
Issue Date:	05/14/15	**Supercedes Date:**	03/20/15

SECTION 1: Identification

1.1. Product identifier
3M™ Super 77™ Multipurpose Adhesive

Product Identification Numbers
LN-A100-0323-8, LN-A100-0323-9, LN-A100-0324-0, 44-0061-0114-9, 44-0061-0164-4, 62-4977-4030-8, 62-4977-4920-0, 62-4977-4926-7, 62-4977-4977-0, 70-0065-8412-5, 70-0065-9982-6, 70-0069-1448-8, 70-0069-1451-2, 70-0069-2063-4, 70-0069-3662-2, 70-0069-3663-0, 70-0069-4021-0, 70-0069-4139-0, 70-0069-4245-5, 70-0069-4840-3, 70-0069-5039-1, 70-0714-1653-4, 70-0714-1654-2, 70-0714-1656-7, 70-0714-7444-2, 70-0714-7572-0, 70-0714-7640-5, 70-0714-7930-0, 70-0714-8259-3, 70-0714-8947-3

1.2. Recommended use and restrictions on use

Recommended use
Adhesive aerosol, General Purpose Aerosol Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Construction and Home Improvement Markets
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Flammable Aerosol: Category 1.
Serious Eye Damage/Irritation: Category 2A.
Reproductive Toxicity: Category 2.
Simple Asphyxiant.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements

Signal word
Danger

Symbols
Flame | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Extremely flammable aerosol.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May displace oxygen and cause rapid suffocation.

Causes damage to organs:
cardiovascular system |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

2.3. Hazards not otherwise classified
Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

20% of the mixture consists of ingredients of unknown acute oral toxicity.
36% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Trade Secret*	20 - 30 Trade Secret *
Acetone	67-64-1	20 - 30 Trade Secret *
Propane	74-98-6	15 - 25 Trade Secret *
Cyclohexane	110-82-7	10 - 20 Trade Secret *
Petroleum Distillates	64742-49-0	10 - 20 Trade Secret *
Hexane	110-54-3	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. Get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexane	110-54-3	OSHA	TWA:1800 mg/m3(500 ppm)	
Hexane	110-54-3	ACGIH	TWA:50 ppm	Skin Notation
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	OSHA	TWA:1050 mg/m3(300 ppm)	
Petroleum Distillates	64742-49-0	CMRG	TWA:50 ppm	
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Acetone	67-64-1	ACGIH	TWA:500 ppm;STEL:750 ppm	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear sweet fruity odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	-42.00 °F [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	1.90 [*Ref Std:* ETHER=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Density	2.97 [*Ref Std:* AIR=1]
Density	0.726 g/ml
Specific Gravity	0.726 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*Not Applicable*
Hazardous Air Pollutants	0.4 % weight [*Test Method:* Calculated]
Hazardous Air Pollutants	0.016 lb HAPS/lb solids [*Test Method:* Calculated]
Hazardous Air Pollutants	0.02 lb HAPS/gal [*Test Method:* Calculated]
Volatile Organic Compounds	Approximately 51 % [*Test Method:* calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	<=458 g/l [*Test Method:* calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg

Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Irritant
Non-volatile components (N.J.T.S. Registry No. 04499600-6433P)	Professional judgement	Minimal irritation
Hexane	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
Cyclohexane	Rabbit	Mild irritant
Petroleum Distillates	Rabbit	Mild irritant
Hexane	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Hexane	Human	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic

Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In Vitro	Not mutagenic
Hexane	In Vitro	Not mutagenic
Hexane	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not Specified	Multiple animal species	Not carcinogenic
Petroleum Distillates	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexane	Dermal	Mouse	Not carcinogenic
Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Acetone	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Hexane	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
Hexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	

Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks

Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
Hexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
Hexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
Hexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
Hexane	Inhalation	auditory system | immune system | eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Hexane	Inhalation	heart | skin | endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
Hexane	Ingestion	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Petroleum Distillates	Aspiration hazard
Hexane	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Cyclohexane	110-82-7	10 - 20

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
This material contains one or more ingredients that may be regulated by the International Traffic in Arms Regulation (ITAR), an export control of US military technology and chemicals. Prior to export of this material or any product containing this material, determine whether a proper license from the Department of State must be obtained. See 22CFR 120-130 for any specific requirements.

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 4 **Instability:** 0 **Special Hazards:** None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	22-4025-7	**Version Number:**	13.02
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3M USA SDSs are available at www.3M.com

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **460-S0121 SOLN HTD-1 (Buffer), Form Liquid**

APPLICATION : BUFFER

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 1 / 2 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Monoethanolamine	141-43-5	10.0 - 30.0

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

WARNING
Irritating to eyes and skin.
Do not get in eyes, on skin, on clothing. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.
Wear suitable protective clothing, gloves and eye/face protection.
May evolve oxides of nitrogen (NOx) under fire conditions. May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin, Inhalation

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Can cause moderate to severe irritation.

SKIN CONTACT :
Can cause moderate irritation.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Aerosols or product mist may irritate the upper respiratory tract.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

HUMAN HEALTH HAZARDS - CHRONIC :
Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.

4. FIRST AID MEASURES

EYE CONTACT :
Immediately flush eye with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : Minimum 200 °F / 93.3 °C (PMCC)

EXTINGUISHING MEDIA :
This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Keep containers cool by spraying with water. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of nitrogen (NOx) under fire conditions. May evolve oxides of carbon (COx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Keep the containers closed when not in use. Use with adequate ventilation.

STORAGE CONDITIONS :
Store the containers tightly closed. Store in suitable labelled containers. Store separately from oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ACGIH/TLV :

Substance(s)	
Monoethanolamine	TWA: 3 ppm , 7.5 mg/m3 STEL: 6 ppm , 15 mg/m3

OSHA/PEL :

Substance(s)	
Monoethanolamine	TWA: 3 ppm , 8 mg/m3 STEL: 6 ppm , 15 mg/m3

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Respiratory protection is not normally needed.

HAND PROTECTION :
Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available. Keep a safety shower available.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is:
Low

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	Slight, Amine

SOLUBILITY IN WATER	Complete
pH (100 %)	10
VAPOR PRESSURE	Same as water

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

The following results are for the hazardous components.

ACUTE ORAL TOXICITY :

Species	LD50	Test Descriptor
Rat	2,100 mg/kg	Product Monoethanolamine

Rating : Non-Hazardous

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Moderate

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this product.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name :	ETHANOLAMINE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 2491
Hazard Class - Primary :	8
Packing Group :	III
Flash Point :	Minimum 93.3 °C / 200 °F

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :	ETHANOLAMINE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 2491
Hazard Class - Primary :	8
Packing Group :	III
IATA Cargo Packing Instructions :	820
IATA Cargo Aircraft Limit :	60 L (Max net quantity per package)

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :	ETHANOLAMINE SOLUTION
Technical Name(s) :	
UN/ID No :	UN 2491
Hazard Class - Primary :	8
Packing Group :	III

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
• Monoethanolamine	Sec. 111

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:

Monoethanolamine	141-43-5

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
E - Corrosive Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 02/21/2004
Version Number : 1.3

MATERIAL SAFETY DATA SHEET

PRODUCT

460-S0297 SOLN 3000 Micromho Standard, Form Liquid

EMERGENCY TELEPHONE NUMBER(S)

(800)463-3216 (24 Hours)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **460-S0297 SOLN 3000 Micromho Standard, Form Liquid**

APPLICATION : REAGENT STANDARD

COMPANY IDENTIFICATION : Nalco Canada Co.
1055 Truman Street
Burlington, Ontario
L7R 3Y9

EMERGENCY TELEPHONE NUMBER(S) : (800)463-3216 (24 Hours)

NFPA 704M/HMIS RATING
HEALTH : 0 / 0 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.
Not flammable or combustible.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
No adverse effects expected.

SKIN CONTACT :
No adverse effects expected.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

HUMAN HEALTH HAZARDS - CHRONIC :
No adverse effects expected other than those mentioned above.

4. FIRST AID MEASURES

EYE CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

Flash Point : > 100 °C (PMCC)

LOWER EXPLOSION LIMIT : Not flammable

UPPER EXPLOSION LIMIT : Not flammable

EXTINGUISHING MEDIA :
Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :
Not flammable or combustible.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

SENSITIVITY TO MECHANICAL IMPACT :
Not expected to be sensitive to mechanical impact.

SENSITIVITY TO STATIC DISCHARGE :
Not expected to be sensitive to static discharge.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Do not touch spilled material. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

METHODS FOR CLEANING UP :
SMALL SPILLS: Flush to drain or sewer with excess water.

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Avoid eye and skin contact. Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use.

STORAGE CONDITIONS :
Store the containers tightly closed.

SUITABLE CONSTRUCTION MATERIAL :
Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

RESPIRATORY PROTECTION :
Respiratory protection is not normally needed.

HAND PROTECTION :
Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Colorless
ODOR	None

SPECIFIC GRAVITY	1 @ 25 °C
SOLUBILITY IN WATER	Complete
pH (100 %)	7.0
VAPOR PRESSURE	Same as water
EVAPORATION RATE	Same as water
VAPOR DENSITY	Same as water
VOC CONTENT	0 %

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
None known

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: None known

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

No toxicity studies have been conducted on this product.

MOBILITY :
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM , provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

BIOACCUMULATION POTENTIAL
This preparation or material is not expected to bioaccumulate.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

13. DISPOSAL CONSIDERATIONS

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

NATIONAL POLLUTANT RELEASE INVENTORY (NPRI) :
This product does not contain any substances listed in Schedule I of the NPRI at a concentration of one percent or more by weight.

NATIONAL REGULATIONS, USA :

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

PRODUCT

460-S0297 SOLN 3000 Micromho Standard, Form Liquid

EMERGENCY TELEPHONE NUMBER(S)

(800)463-3216 (24 Hours)

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

Prepared By : SHE Department
Date issued : 2005/12/19
Version Number : 2.3

05210002

*****MATERIAL SAFETY DATA SHEET*****
For Coatings, Resins and Related Materials

SECTION I-PRODUCT AND PREPARATION INFORMATION

MANUFACTURER: RUST-OLEUM CORPORATION
ADDRESS: 11 Hawthorn Parkway
Vernon Hills, IL
60061

EMERGENCY AND INFORMATION
TELEPHONE: (708)367-7700

PRODUCT CLASS: Paint Thinner
MANUFACTURERS CODE: 633 and 7700
TRADE NAME: 633 and 7700 Thinners
DATE OF PREPARATION: September 11, 1992 (rwb)

SECTION II-HAZARDOUS INGREDIENTS

INGREDIENT/CAS No	WT %	EXPOSURE LIMITS ACGIH-TLV	OSHA-PEL	LEL	mm Hg@20C
Mineral Spirits/8052-41-3	100%*	100ppm	100ppm	1.0%	2.0

* Nearest 5%
NE-not established NA-not applicable

SECTION III-PHYSICAL DATA

Boiling range: 307-389 F (153-198 C)
Vapor density: Heavier than air
Evaporation Rate: Slower (Ether=1)
% Volatile: 100% (by volume)
Wt/gal: 6.4 lbs.
pH: NA

SECTION IV-FIRE AND EXPLOSION HAZARDS

Flammability Classification: OSHA Class II Combustible liquid
Flashpoint: 104 F (TCC)
DOT Classification: Combustible liquid

Extinguishing Media: NFPA Class B extinguishers (Carbon dioxide, dry chemical or foam)

Special Fire Fighting Procedures:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion. If water is used, fog nozzles are preferred.

Unusual Fire and Explosion Hazards:
Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. DO NOT apply to hot surfaces.

SECTION V-HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

Acute(Inhalation)- Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Repeated overexposures may lead progressively to staggering gait, confusion, unconsciousness or coma. Causes nose and throat irritation.

Acute(Skin or Eye Contact)- Causes eye and skin irritation which may lead to dermatitis with repeated overexposures.

Ingestion- gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic- Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

EMERGENCY AND FIRST AID PROCEDURES:

Fumes: Remove from exposure, restore breathing and notify a physician.

Spray(eyes): Flush immediately with large amounts of water for at least 15 minutes. Notify a physician.

Splash(skin): Wash affected area with soap and water, remove contaminated clothing and wash before reuse.

Ingestion: DO NOT induce vomiting. Keep person warm, quiet and get medical attention. Aspiration of this material into the lungs can cause chemical pneumonitis which can be fatal.

SECTION VI-REACTIVITY DATA

Stability: Stable Incompatible: with strong oxidizing agents Hazardous Decomposition Products: By open flame- Carbon monoxide and Carbon dioxide.

Hazardous Polymerization: Will Not Occur

SECTION VII-SPILL OR LEAK PROCEDURES

Release or Spill Procedures: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools

Waste Disposal Method: Dispose of according to local, state and federal regulations. DO NOT incinerate closed containers.

SECTION VIII-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use NIOSH approved chemical cartridge respirator (TC23C) to remove solid airborne particles of overspray and organic vapors during spray application. In confined areas: Use NIOSH approved supplied-air respirators or hoods (TC19C).

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other Protective Equipment: Use gloves to prevent prolonged skin contact. Ventilation: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

SECTION IX-SPECIAL PRECAUTIONS AND REGULATORY ISSUES Handling and

Storage Precautions: Do not store above 120 F. Store large quantities in buildings designed and protected for storage of NFPA Class I Flammable liquids. Containers should be grounded when pouring. Empty containers may be hazardous.

CALIFORNIA PROPOSITION 65 WARNING: These products are not known to contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other Protective Equipment: **Use gloves to prevent prolonged skin contact.**

Ventilation: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limit.

SECTION IX-SPECIAL PRECAUTIONS AND REGULATORY ISSUES

Handling and Storage Precautions: Do not store above 120 F. Store **large quantities** in **buildings designed and protected** for storage of NFPA Class II Combustible liquids. Containers should be grounded when pouring. Empty containers may be hazardous.

CALIFORNIA PROPOSITION 65 WARNING: These products are not known to contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

SAFETY DATA SHEET

Revision Date 11-Jun-2015 **Version** 3

1. IDENTIFICATION

Product identifier
Product Name 765-1224 NAPA HIGH TACK SPRAY-A-GASKET 9 OZ (PTX80065)

Other means of identification
Product Code 21149
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Aerosol Sealant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable aerosols	Category 1

Label elements

Emergency Overview

Danger

Causes skin irritation
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Extremely flammable aerosol

Appearance Red **Physical state** Liquid **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).
The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w 1,3-butadiene (EINECS No. 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the S-phrases (2-)9-16 (Table 3.2) should apply. This note applies only to certain complex oil-derived substances in Part 3

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
PETROLEUM GASES, LIQUEFIED, SWEETENED	68476-86-8	30 - 60	*
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH.	64742-89-8	10 - 30	*
N-HEXANE	110-54-3	10 - 30	*
ETHYL ACETATE	141-78-6	1 - 5	*
ACETONE	67-64-1	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Extremely flammable. Heating causes rise in pressure with risk of bursting.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take precautionary measures against static discharges. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Strong oxidizing agents, Alkalis

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N-HEXANE 110-54-3	TWA: 50 ppm S*	TWA: 500 ppm TWA: 1800 mg/m³ (vacated) TWA: 50 ppm (vacated) TWA: 180 mg/m³	IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m³
ETHYL ACETATE 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m³ (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m³	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m³

ACETONE 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m³ (vacated) STEL: 2400 mg/m³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Red
Odor	Solvent
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	Does not apply	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 38 °C / 100 °F	
Flash point	< -18 °C / < 0 °F	Gives a flame projection at full valve opening or flashback at any degree of valve opening
Evaporation rate	>1	Ether = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	Not determined	
Vapor density	>1	Air = 1
Relative density	0.755-0.765	
Water solubility	Negligible	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	

Explosive properties No information available
Oxidizing properties No information available

Other Information

Softening point No information available
Molecular weight No information available
VOC Content (%) 64.7%
Density No information available
Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents, Alkalis

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May be harmful by inhalation.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH. 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
N-HEXANE 110-54-3	= 25 g/kg (Rat)	= 3000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h
ETHYL ACETATE 141-78-6	= 5620 mg/kg (Rat)	> 18000 mg/kg (Rabbit) > 20 mL/kg (Rabbit)	-
ACETONE 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m^3 (Rat) 8 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Reproductive toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.
Target Organ Effects Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 53308 mg/kg
ATEmix (dermal) 5950 mg/kg
ATEmix (inhalation-dust/mist) 4008 mg/l
ATEmix (inhalation-vapor) 192000 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

45 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH. 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
N-HEXANE 110-54-3	-	2.1 - 2.98: 96 h Pimephales promelas mg/L LC50 flow-through	1000: 24 h Daphnia magna mg/L EC50
ETHYL ACETATE 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	560: 48 h Daphnia magna mg/L EC50 Static
ACETONE 67-64-1	-	4.74 - 6.33: 96 h Oncorhynchus mykiss mL/L LC50 6210 - 8120: 96 h Pimephales promelas mg/L LC50 static 8300: 96 h Lepomis macrochirus mg/L LC50	10294 - 17704: 48 h Daphnia magna mg/L EC50 Static 12600 - 12700: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
PETROLEUM GASES, LIQUEFIED, SWEETENED 68476-86-8	<=2.8
ETHYL ACETATE 141-78-6	0.6
ACETONE 67-64-1	-0.24

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ETHYL ACETATE 141-78-6	-	Included in waste stream: F039	-	U112
ACETONE 67-64-1	-	Included in waste stream: F039	-	U002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
N-HEXANE 110-54-3	Toxic Ignitable
ETHYL ACETATE 141-78-6	Toxic Ignitable
ACETONE 67-64-1	Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no UN 1950
Proper shipping name: Aerosols, Limited Quantity (LQ)
Hazard Class 2.1

IATA

UN/ID no ID 8000
Proper shipping name: Consumer commodity
Hazard Class 9

IMDG

UN/ID no UN 1950
Proper shipping name: Aerosols, Limited Quantity (LQ)
Hazard Class 2.1

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Not Listed.
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
N-HEXANE - 110-54-3	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N-HEXANE 110-54-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
ETHYL ACETATE 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
ACETONE 67-64-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N-HEXANE 110-54-3	X	X	X
ACETONE 67-64-1	X	X	X
ETHYL ACETATE 141-78-6	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

NFPA	**Health hazards** 2	**Flammability** 4	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 4	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 11-Jun-2015

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA
Telephone: 1-87-Permatex
(877) 376-2839
Emergency: 800-255-3924 (ChemTel)
International Emergency: 00+ 1+ 813-248-0585

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Product Name: **765-2648 NAPA HIGH TEMPERATURE THREAD SEALANT (PTX59214) 6 ML**
Item No: **21211**
Product Type: **Anaerobic**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight%	ACGIH; TLV-TWA	OSHA PEL
POLYGLYCOL DIMETHACRYLATE 25852-47-5	20-40	Not listed	Not listed
POLYESTER RESIN MIXTURE -	10-30	Not listed	Not listed
SILICA, MICA 12001-26-2	10-30	3 mg/m^3	20 mppcf
OCTANOL 111-87-5	<10	Not listed	Not listed
POLYETHYLENE GLYCOL ESTER 18268-70-7	<10	Not listed	Not listed
POLYTETRAFLUOROETHYLENE 9002-84-0	<5	Not listed	Not listed
TREATED SILICON DIOXIDE, SYNTHETIC, CRYSTALLINE-FREE 67762-90-7	<5	10 mg/m^3	Not listed
TITANIUM DIOXIDE 13463-67-7	<3	10 mg/m^3	15 mg/m^3
PROPYLENE GLYCOL 57-55-6	<3	Not listed	Not listed
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	<2	Not listed	Not listed

3. HAZARDS IDENTIFICATION

Toxicity: Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea. May cause eye and skin irritation. May cause skin sensitization. Note: This product does not contain microcyrstalline silica.

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation

Signs and Symptoms of Exposure: Repeated skin contact may cause allergic skin reactions. May cause redness to eyes and irritation to nasal passages.

Component	Weight%	NTP	ACGIH Carcinogens	IARC Carcinogen
POLYTETRAFLUOROETHYLENE 9002-84-0	<5			Group 3 Supplement 7, 1987; Monograph 19, 1979
TITANIUM DIOXIDE 13463-67-7	<3	male rat-negative, female rat-negative, male mice-negative, female mice-negative	A4	Group 2B; Vol 93,2006; Vol 47,1989

Aggravated Medical Condition: Preexisting skin disorders.

4. FIRST AID MEASURES

Ingestion: If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Move to fresh air in case of accidental inhalation of vapours. Obtain medical attention.

Skin Contact: Wash off with soap and water. If skin irritation persists, call a physician.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point °F(C°): >200° F TCC
Recommended Extinguishing Media: Carbon dioxide, Dry chemical, Foam
Special Fire-Fighting Procedures: Firefighters should wear self-contained breathing apparatus.
Hazardous Products of Combustion: Oxides of carbon
Unusual Fire/Explosion Hazards: None.

Lower Explosive Limit: 1.0: Octanol
Upper Explosive Limit: 8.0: Octanol

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

7. HANDLING AND STORAGE

Storage: Store below 100°F. Keep in cool and dark place. Avoid direct sunlight.
Handling: Avoid prolonged skin contact. Keep away from eyes. Wash hands before eating and smoking.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eyes: Safety glasses.
Skin: Neoprene or nitrile gloves recommended.
Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits (or to the lowest feasible levels when limits have not been established) during the use of this product.
Respiratory Protection: Not required under normal use. An approved organic vapor respirator should be worn when exposures are expected to exceed the applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White paste
Odor: Mild
Boiling Point: >300°F
pH: Does not apply
Solubility in Water: Insoluble
Specific Gravity: 1.16-1.26
VOC(Wt.%): 2.8%; 33.9 g/l
Vapor Pressure: n/d
Vapor Density (Air=1): >1
Evaporation Rate: n/d

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal conditions
Hazardous Polymerization: Will not occur
Incompatabilities: Strong oxidizers, Metal salts, heat and amines
Conditions to Avoid: Heat
Hazardous Products of Combustion: Oxides of carbon

11. TOXICOLOGICAL INFORMATION

See Section 3

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49CFR 172)
U.S. Department of Transportation - DOT - 49 CFR (Ground)
DOT Shipping Name: Not regulated
Hazard Class: None

14. TRANSPORTATION INFORMATION

UN/ID Number: None

IATA (Air)

Proper Shipping Name: Not regulated
Class or Division: None
UN/ID Number: None

IMDG (Vessel)

Proper Shipping Name: Not regulated
Hazard Class: None
UN Number: None

Marine Pollutant: None

15. REGULATORY INFORMATION

SARA 313 Chemicals: The following component(s) is listed as a SARA Section 313 Toxic Chemical.

DIMETHYLBENZYL HYDROPEROXIDE

California Proposition 65: No California Prop 65 chemicals are known to be present at or above the No Significant Risk Level

TSCA Inventory Status: All components of this product are listed (or exempt) on the EPA TSCA inventory.

16. OTHER INFORMATION

Estimated NFPA Rating: HEALTH 2, FLAMMABILITY 1 , REACTIVITY 0.
Estimated HMIS Classification: HEALTH 2, FLAMMABILITY 1, PHYSICAL HAZARD 0
(NFPA is a registered trademark of the National Fire Protection Association)
(HMIS is a registered trademark of the National Paint and Coatings Association)

Prepared By: Denise Boyd, Manager-Environmental, Health & Safety
Company: ITW Permatex 10 Columbus Blvd. Hartford, CT USA 06106
Telephone No.: 1-87-Permatex (877) 376-2839

Revision Date: March 15, 2013
Revision Number: 3

Safety Data Sheet

Document Group:	31-4419-3	**Version Number:**	3.00
Issue Date:	05/20/15	**Supercedes Date:**	09/30/14

SECTION 1: Identification

1.1. Product identifier
A12, Car Cleaner Wax - Liquid (22-66A): A1216

Product Identification Numbers
14-1000-0013-3, 14-1000-0014-1, 14-1000-0015-8, 14-1000-0016-6

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Liquid wax

1.3. Supplier's details

MANUFACTURER:	Meguiar's, Inc.
DIVISION:	Meguiar's
ADDRESS:	17991 Mitchell South, Irvine, CA 92614, USA
Telephone:	949-752-8000 (Fax: 949-752-5784)

1.4. Emergency telephone number
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Skin Corrosion/Irritation: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
Causes skin irritation.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Wear protective gloves.
Wash thoroughly after handling.

Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

2.3. Hazards not otherwise classified
None.

1% of the mixture consists of ingredients of unknown acute oral toxicity.
9% of the mixture consists of ingredients of unknown acute dermal toxicity.
19% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Petroleum Distillates	64742-88-7	10 - 30 Trade Secret *
Petroleum Distillates	64742-48-9	1 - 10 Trade Secret *

Any remaining components do not contribute to the hazards of this material.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Irritant Vapors or Gases	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Protect from sunlight. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Naphtha	64742-48-9	OSHA	TWA:400 mg/m3(100 ppm)	
Petroleum Distillates	64742-48-9	Manufacturer determined	TWA:100 ppm	
Petroleum Distillates	64742-88-7	CMRG	TWA:100 ppm	
Kerosine (petroleum)	64742-88-7	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., Skin Notation

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Fluoroelastomer
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Sweet, pleasant odor; Creamy, ivory liquid
Odor threshold	*No Data Available*
pH	8.5 - 9.2
Melting point	*Not Applicable*
Boiling Point	390 ºF
Flash Point	Flash point > 93 °C (200 °F)
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density	*No Data Available*
Density	0.91 - 1.01 g/cm3
Specific Gravity	0.91 - 1.01 [*Ref Std:* WATER=1]
Solubility in Water	Moderate
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	26,000 - 32,000 centipoise
Volatile Organic Compounds	14.66 % weight
Percent volatile	*No Data Available*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong acids
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Petroleum Distillates	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,000 mg/kg
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg

Petroleum Distillates	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,000 mg/kg
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Petroleum Distillates	Rabbit	Irritant
Petroleum Distillates	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Petroleum Distillates	Rabbit	No significant irritation
Petroleum Distillates	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Petroleum Distillates	Guinea pig	Not sensitizing
Petroleum Distillates	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Petroleum Distillates	In vivo	Not mutagenic
Petroleum Distillates	In Vitro	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	In vivo	Not mutagenic
Petroleum Distillates	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Petroleum Distillates	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Petroleum Distillates	Inhalation	Not toxic to development	Rat	NOAEL 2.4 mg/l	during organogenesis
Petroleum Distillates	Inhalation	Not toxic to development	Rat	NOAEL 2.4 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillates	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4.6 mg/l	6 months
Petroleum Distillates	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.9 mg/l	13 weeks
Petroleum Distillates	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.6 mg/l	90 days
Petroleum Distillates	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5.6 mg/l	12 weeks
Petroleum Distillates	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1.3 mg/l	90 days
Petroleum Distillates	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4.6 mg/l	6 months
Petroleum Distillates	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.9 mg/l	13 weeks
Petroleum Distillates	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.6 mg/l	90 days
Petroleum Distillates	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5.6 mg/l	12 weeks
Petroleum Distillates	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1.3 mg/l	90 days

Aspiration Hazard

Name	Value
Petroleum Distillates	Aspiration hazard
Petroleum Distillates	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

General Transportation Statement This product does not require classification by DOT, IATA, ICAO or IMDG.

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact manufacturer for more information

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact manufacturer for more information

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact manufacturer for more information

15.4. International Regulations

Contact manufacturer for more information

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	ABC Dry Chemical Fire Extinguishant
Other Identifiers:	Multi-purpose Dry Chemical
Product Code(s):	CH550, F15, F18
Model Code(s) for Extinguishers:	411, 417, 419, 423, 424, 425, 441, 443, 450, 456, 461, 464, 467, 470, 473, 476, 481, 487, 488, 491, 495, 500, 564, 567, 573, 581, 589, 592, 594, 668, 692, 720, 760, 763, 781.
Recommended Use:	Fire suppression, not for human or animal drug use.
Manufacturer:	AMEREX CORPORATION
Internet Address:	www.amerex-fire.com
Address:	7595 Gadsden Highway, P.O. Box 81 Trussville, AL 35173-0081
Company Telephone:	(205) 655-3271
E-mail Address:	info@amerex-fire.com
Emergency Contacts:	Chemtrec 1(800) 424-9300 or (703) 527–3887
Revised:	January 2015

Section 2. HAZARDS IDENTIFICATION

GHS – Classification

Health	Environmental	Physical
Acute Toxicity: Category 5	None	None
Skin Corrosion/Irritation: Category 2	None	None
Skin Sensitization: NO	None	None
Eye: Category 2B	None	Warning
Carcinogen: Category None	None	None

GHS – Label Symbol(s): None

GHS – Signal Word(s): **Warning**

Other Hazards Not Resulting in Classification: None

GHS – Hazard Phrases

GHS Hazard	GHS Codes(s)	Code Phrase(s)
Physical	None	
Health	H303	May be harmful if swallowed
	313	May be harmful in contact with skin
	320	Causes eye irritation
	333	May be harmful if inhaled
Environmental	None	
Precautionary:		
General	P101	If medical advice is needed, have product container or label at hand
	102	Keep out of reach of children
Prevention	234	Keep in original container
	251	Pressurized container; do not pierce or burn, even after use
	261	Avoid breathing dust
	264	Wash hands and face thoroughly after handling
	270	Do not eat, drink, or smoke when using this product
	281	Use personal protective equipment as required
	285	In case of inadequate ventilation, wear respiratory protection
Response	P301+322+331	If swallowed, drink 2-3 glasses of water and do not induce vomiting
	302+352	If on skin, wash with soap and water
	304+313+341	If inhaled, and if distress occurs, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice/attention
	305+351+338	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, and continue to rinse
	308+313	If exposed or concerned, get medical advice/attention
	337+313	If eye irritation persists; get medical advice/attention
Storage	P401+402+403	Store in original container or extinguisher in a dry, well ventilated place

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC No.	REACH Reg. No.	CAS-No.	Weight %
Mono-ammonium phosphate	NA	NA	7722-76-1	55-75
Ammonium sulfate	231-984-1	NA	7783-20-2	20-40
Fullers earth magnesium aluminum silicate	NA	Not Available	8031-18-3	<3
Mica- potassium aluminum silicate	NA	Not Available	12001-26-2	1-2
Silicone oil methyl hydrogen polysiloxane	NA	Not Available	63148-57-2	<1
Calcium carbonate	215-279-6	Not Available	1317-65-3	<1
Amorphous silica precipitated synthetic zeolite	262-373-8	Not Available	112926-00-8	<1
Yellow 14 pigment – diazo dye	228-767-9	Not Available	5468-75-7	<1

Emergency overview: Light yellow, fine solid powder, odorless.

Adverse health effects and symptoms: Irritant to the respiratory system; Irritating to eyes and skin. Symptoms may include coughing, shortness of breath, and irritation of the lungs, eyes, and skin.

Ingestion, although unlikely, may cause cramps, nausea and diarrhea.

Cut-off Levels

Chemical Name	Reproductive Toxicity	Carcinogenicity	Mutagenicity	Other Hazard Classes
Mono-ammonium Phosphate	NA	NA	NA	NA
Ammonium Sulfate	NA	NA	NA	NA
Fullers earth magnesium aluminum silicate	NA	NA	NA	NA
Mica-potassium aluminum silicate	NA	NA	NA	NA
Silicone oil methyl hydrogen polysiloxane	NA	NA	NA	NA
Calcium carbonate	NA	NA	NA	NA
Amorphous silica precipitated synthetic zeolite	NA	NA	NA	NA
Yellow 14 pigment – di-azo dye	NA	NA	NA	NA

Section 4. FIRST AID MEASURES

Eye Exposure: May cause irritation. Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation develops, or if vision changes occur.

Skin Exposure: May cause skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists.

Inhalation: May cause irritation, along with coughing. If respiratory irritation or distress occurs, remove victim to fresh air. Seek medical attention if irritation persists.

Ingestion: Overdose symptoms may include numbness or tingling in hands or feet, uneven heart rate, paralysis, feeling faint, chest pain or heavy feeling, pain spreading to the arm or shoulder, nausea, diarrhea, sweating, general ill feeling, or seizure (convulsions). If victim is conscious and alert, give 2-3 glasses of water to drink. If conscious, do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist.

Medical conditions possibly aggravated by exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin

disease. Chronic overexposure may cause pneumoconiosis ("dusty lung" disease).

Section 5. FIRE-FIGHTING MEASURES

Flammable Properties:	Not flammable
Flash Point:	Not determined
Suitable Extinguishing Media:	Non-combustible. Use extinguishing media suitable for surrounding conditions.
Hazardous Combustion Products:	Carbon and sulfur oxides
Explosion Data:	
Sensitivity to Mechanical Impact:	Not sensitive
Sensitivity to Static Discharge:	Not sensitive
Unusual fire/explosion hazards:	In a fire this material may decompose, releasing oxides of carbon, sulfur, potassium and nitrogen (see Section 10).
Protective Equipment and Precautions for Firefighters:	As in any fire, wear self-contained breathing apparatus in pressure-demand, NIOSH approved or equivalent and full protective gear.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Avoid contact with skin, eyes, and clothing.
Personal Protective Equipment:	Minimum - safety glasses, gloves, and a dust respirator.
Emergency Procedures:	NA
Methods for Containment:	Prevent further leakage or spillage if safe to do so.
Methods for Clean Up:	Avoid dust formation; clean up released material using vacuum or wet sweep and shovel to minimize generation of dust. Bag and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.
Environmental Precautions:	Prevent material from entering waterways.
Other:	If product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical/material in the mixture.

Section 7. HANDLING AND STORAGE

Personal Precautions:	Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8).
Conditions for Safe Storage/Handling:	Keep product in original container or extinguisher. Contents may be under pressure – inspect for extinguisher rust periodically to ensure container integrity.
Incompatible Products:	Do not mix with other extinguishing agents, particularly potassium bicarbonate and sodium bicarbonate. Incompatible with strong oxidizing agents and strong acids. Do not store in high humidity. Do not combine with chlorine compounds.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

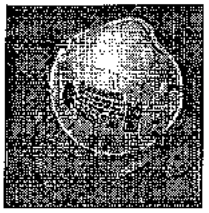
Chemical Name	OSHA PEL	ACGIH TLV	DFG MAK *	EU BLV
Mono-ammonium phosphate	PNOC** Total dust, 15 mg/m^3 Respirable fraction, 5 mg/m^3	PNOC Total dust, 10 mg/m^3 Respirable fraction, 3 mg/m^3	PNOC Total dust, 4 mg/m^3 Respirable fraction, 1.5 mg/m^3	NA
Ammonium Sulfate	PNOC** Total dust, 15 mg/m^3 Respirable fraction, 5 mg/m^3	PNOC Total dust, 10 mg/m^3 Respirable fraction, 3 mg/m^3	PNOC Total dust, 4 mg/m^3 Respirable fraction, 1.5 mg/m^3	NA
Mica	6 mg/m^3	3 mg/m3	NR	NA
Fullers Earth	PNOC** Total dust, 15 mg/m^3 Respirable fraction, 5 mg/m^3	PNOC Total dust, 10 mg/m^3 Respirable fraction, 3 mg/m^3	PNOC Total dust, 4 mg/m^3 Respirable fraction, 1.5 mg/m^3	
Silicone oil	NR**	NR	NR	NA
Calcium carbonate	PNOC Total dust, 15 mg/m^3 Respirable fraction, 5 mg/m^3	PNOC Total dust, 10 mg/m^3 Respirable fraction, 3 mg/m^3	----	NA
Amorphous silica	80 mg/m^3 % silica	10 mg/m^3	4 mg/m^3	NA
Yellow 14 pigment	NR	NR	NR	NA

*German regulatory limits **PNOC = Particulates not otherwise classified (ACGIH) also known as Particulates not otherwise regulated (OSHA) *** NR = Not Regulated. All values are 8 hour time weighted average concentrations.

Engineering Controls: Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment – PPE Code E:



Eye/Face Protection:	Tightly fitting safety goggles
Skin and Body Protection:	Wear protective gloves/coveralls
Respiratory Protection:	If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use N95 dust mask for limited exposure; use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure. Positive-pressure-demand supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. The need for respiratory protection is not likely for short-term use in well ventilated areas.
Hygiene Measures:	Good personal hygiene practices essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellow powder, finely divided odorless solid
Molecular Weight:	$NH_4H_2PO_4$: 115.03; $(NH_4)_2SO_4$: 132.14
Odor:	Odorless
Odor Threshold:	No information available
Decomposition Temperature ^{o}C:	100 - 120
Freezing Point ^{o}C:	No information available
Initial Boiling Point ^{o}C:	No information available
Physical State:	Crystalline Powder

pH:	Mixture approximately 4 to 5; NH4H2PO4: 4.2 in 0.2 molar solution; (NH4)2SO4: 5.5 in 0.1 molar solution
Flash Point °C:	None
Auto-ignition Temperature °C:	None
Boiling Point/Range °C:	Not Applicable
Melting Point/Range °C:	NH4H2PO4: 190; (NH4)2SO4: 280
Flammability:	Not Flammable
Flammability Limits in Air °C:	Upper – Not Flammable; Lower-Not Flammable
Explosive Properties:	None
Oxidizing Properties:	None
Volatile Component (%vol)	Not Applicable
Evaporation Rate:	Not Applicable
Vapor Density:	Not Applicable
Vapor Pressure:	Not Applicable
Specific gravity at 25 C:	NH4H2PO4: 1.80; (NH4)2SO4:: 1.77
Solubility:	Coated-Not Immediately Soluble in Water
Partition Coefficient:	NH4H2PO4 Est: -4.11; (NH4)2SO4: Est: -0.48
Viscosity:	Not Applicable

NOTE: NH4H2PO4 – Monoammonium Phosphate; (NH4)2SO4: – Ammonium Sulfate

Section 10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage and handling conditions.
Reactivity:	
Incompatibles:	Strong alkalis (bases), magnesium, strong oxidizers, isocyanuric acids and chlorine compounds.
Conditions to Avoid:	Storage or handling near incompatibles.
Hazardous Decomposition Products:	Heat of fire may release carbon monoxide, carbon dioxide, and sulfur dioxide. Also ammonia, oxides of phosphorous and nitrogen oxides may be released during decomposition.
Possibility of Hazardous Reactions:	Slight
Hazardous Polymerization	Does not occur

Section 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Inhalation, skin, and eye contact.

Symptoms:

Immediate:	
Inhalation:	Irritation, coughing.
Eyes:	Irritation.
Skin:	Irritation.
Delayed:	Symptoms appear to be relatively immediate
Acute Toxicity:	Relatively non-toxic.
Chronic Toxicity:	
Short-term Exposure:	None known.
Long-term Exposure:	As with all dusts, pneumoconiosis, or "dusty lung" disease, may result from chronic exposure.

Acute Toxicity Values - Health

Chemical Name	LD50		LC50 (Inhalation)
	Oral	Dermal	
Mono-ammonium phosphate	5750 mg/kg (rat)	>7940 mg/kg (rabbit)	Not available
Ammonium Sulfate	2840 mg/kg (rat)	Not available	Not available
Mica	None	None	None
Fullers Earth	None	None	None
Silicone oil	None	None	None
Calcium carbonate	6450 mg/kg (rat)	500 mg/24 hr (rabbit)	Not available
Amorphous silica	>5000 mg/kg (rat)	>2000 mg/kg (rabbit)	>2.2 mg/L (rat)
Yellow 14 pigment	>17000 mg/kg (rat)	>3000 mg/kg (rat)	>4448 mg/m3 (rat)

Reproductive Toxicity: This product's ingredients are not known to have reproductive or teratogenic effects.

Target Organs and Effects (TOST): Respiratory system irritant).
This product is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. No information was found indicating the product causes sensitization.

Other Toxicity Categories

Chemical Name	Germ Cell Mutagenicity	Carcino-genicity	Repro-ductive	TOST Single Exp	TOST Repeated Exp	Aspiration
Mono-ammonium phosphate	None	None	None	Cat 3	None	None
Ammonium Sulfate	None	None	None	Cat 3	None	None
Fullers earth	None	None	None	None	None	None
Mica	None	None	None	None	None	None
Silicone oil	None	None	None	None	None	None
Calcium carbonate	None	None	None	None	None	None
Amorphous silica	None	None	None	None	None	None
Yellow 14 pigment	None	None	None	None	None	None

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Negative effects unknown. Provides nutrient nitrogen and phosphorus to plant life.
Persistence/Degradability:	Degrades rapidly in humid/wet environment.
Probability of rapid biodegradation:	NH4H2PO4 Est: 0.693 (Rapid); (NH4)2SO4: Est: 0.684 (Rapid)
Anaerobic biodegradation probability:	NH4H2PO4 Est: 0.398 (Slow); (NH4)2SO4: Est: 0.398 (Slow)
Bioaccummulation potential:	Low.
Bioconcentration factor:	NH4H2PO4: 3.16 L/kg; (NH4)2SO4: 3.16 L/kg (wet weight)
Bioaccummulation:	Extent unknown.
Mobility in soil:	Slow evaporation rate; water soluble, may leach to groundwater
Log Koc:	NH4H2PO4 Est: -1.25: (NH4)2SO4: Est: 1.35
Log Koa:	NH4H2PO4 Est: 16.72; (NH4)2SO4: Est: 20.10
Log Kaw:	NH4H2PO4 Est: -20.86; (NH4)2SO4: Est: -19.62

NOTE: NH4H2PO4 – Monoammonium Phosphate; (NH4)2SO4: – Ammonium Sulfate

Other Adverse Ecological Effects: No other known effects at this time

Aquatic Toxicity Values – Environment – Research

Chemical Name	Acute (LC50)	Chronic (LC50)
Monoammonium phosphate	N/A	N/A
Ammonium Sulfate	N/A	N/A
Mica	N/A	N/A
Fullers Earth	N/A	N/A
Silicone oil	N/A	N/A
Calcium carbonate	N/A	N/A
Amorphous silica	N/A	N/A
Yellow 14 pigment	N/A	N/A

Aquatic Toxicity Values – Environment – Estimates

Chemical Name	Acute (LC50)	EC50
Monoammonium phosphate	2.91e+07 mg/L Fish 96 hr; 9.4e+06 mg/l Daphnid 48 hr;	6.70e+05 mg/L Gr. Algae 96 hr
Ammonium Sulfate	2521 mg/L Fish 96 hr; 1244 mg/l Daphnid 48 hr;	518 mg/L Gr. Algae 96 hr
Mica	N/A	N/A
Fullers Earth	N/A	N/A
Silicone oil	N/A	N/A
Calcium carbonate	N/A	N/A
Amorphous silica	N/A	N/A
Yellow 14 pigment	N/A	N/A

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling	Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8).
Waste Disposal Considerations	Dispose in accordance with federal, state, and local regulations.
Contaminated Packaging	Dispose in accordance with federal, state, and local regulations.

NOTES:
This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. TRANSPORT INFORMATION

UN Number:	NA
UN Proper Shipping Name:	NA
Transport Hazard Class:	NA
Packing Group:	NA
Marine Pollutant?:	NO
IATA	Not regulated
DOT	Not regulated

NOTES:
This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Special Precautions for Shipping:
If shipped in a stored pressure-type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. Use a Non-Flammable Gas label (class 2.2) when shipping via air.

Section 15. REGULATORY INFORMATION

International Inventory Status: All ingredients are on the following inventories

Country(ies)	Agency	Status
United States of America	TSCA	Yes
Canada	DSL	Yes
Europe	EINECS/ELINCS	Yes
Australia	AICS	Yes
Japan	MITI	Yes
South Korea	KECL	Yes

REACH Title VII Restrictions: No information available

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on Label	Pollution Release and Transfer Registry (Class II)	Pollution Release and Transfer Registry (Class I)	Poison and Deleterious Substances Control Law
Monoammonium Phosphate	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonium Sulfate	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Component	ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA – Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals	Toxic Release Inventory (TRI) – Group I	Toxic Release Inventory (TRI) – Group II
Monoammonium Phosphate 7722-76-1	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ammonium Sulphate	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Fullers earth magnesium aluminum silicate 8031-18-3 (>4)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Mica-potassium aluminum silicate 120001-26-2 (>2)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Calcium carbonate 471-34-1	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Amorphous silica 69012-64-2	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Yellow 14 pigment 5468-75-7	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

European Risk and Safety phrases:

EU Classification: Irritant

R Phrases:	20	Harmful by inhalation.
	36/37	Irritating to eyes, respiratory system.
S Phrases:	22	Do not breath dust.
	24/25	Avoid contact with skin and eyes
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	36	Wear suitable protective clothing.

U.S. Federal Regulatory Information:

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product does not contain and chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs), or are regulated under TSCA 8(d).

SARA 311/312 Hazard Categories:

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard-*	Yes
Reactive Hazard	No

* - Only applicable if material is in a pressurized extinguisher.

Clean Water Act:
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)
Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPs) under Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulatory Information:

Chemicals in this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: None
California – Permissible Exposure Limits for Chemical Contaminants: None

Florida – Substance List: Mica Dust **Illinois**
– Toxic Substance List: None **Kansas** –
Section 302/303 List: None **Massachusetts** –
Substance List: Mica Dust
Minnesota – List of Hazardous Substances: None
Missouri – Employer Information/Toxic Substance List: None
New Jersey – Right to Know Hazardous Substance List: None
North Dakota – List of Hazardous Chemicals, Reportable Quantities: None
Pennsylvania – Hazardous Substance List: None
Rhode Island – Hazardous Substance List: Mica Dust
Texas – Hazardous Substance List: No
West Virginia – Hazardous Substance List: None
Wisconsin – Toxic and Hazardous Substances: None

California Proposition 65: No component is listed on the California Proposition 65 list.

Other:

Mexico – Grade	No component listed
Canada – WHMIS Hazard Class	No component listed

Section 16. OTHER INFORMATION

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

Issuing Date	17-June-2012
Revision Date	17-October-2013
Revision Date	06-January-2015
Revision Notes	None

The information herein is given in good faith but no warranty, expressed or implied, is made.
Updated by William F. Garvin, CIH.

SAFETY DATA SHEET

1010016

Section 1. Identification

Product name : ACE® RUST STOP Indoor/Outdoor Enamel
Flat Black

Product code : 1010016

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Mfd. for:
ACE HARDWARE COPORATION
Oak Brook, IL 60521

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 33.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	23	67-64-1
Lt. Aliphatic Hydrocarbon Solvent	19.4	64742-89-8
Propane	13.77	74-98-6
Butane	13.23	106-97-8
Xylene	6.35	1330-20-7
Ethylbenzene	1.12	100-41-4
Carbon Black	0.6	1333-86-4
Methyl Ethyl Ketoxime	0.52	96-29-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Lt. Aliphatic Hydrocarbon Solvent	None.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
Methyl Ethyl Ketoxime	**AIHA WEEL (United States, 10/2011). Skin sensitizer.** TWA: 10 ppm 8 hours.

Occupational exposure limits (Canada)

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 600 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketoxime	**AIHA WEEL (United States, 10/2011). Skin sensitizer.** TWA: 10 ppm 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 29.34 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
Methyl Ethyl Ketoxime	LD50 Oral	Rat	930 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Methyl Ethyl Ketoxime	Eyes - Severe irritant	Rabbit	-	100 microliters	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Ethylbenzene	-	2B	-
Carbon Black	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	37195.4 mg/kg
Inhalation (gases)	52642.9 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours

Section 12. Ecological information

	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Methyl Ethyl Ketoxime	Acute LC50 843000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high
Xylene	-	8.1 to 25.9	low
Methyl Ethyl Ketoxime	-	2.5 to 5.8	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-

Section 14. Transport information

Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		3
Physical hazards		0

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification **Justification**

Section 16. Other information

FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 6/4/2016

Date of issue/Date of revision : 6/4/2016

Date of previous issue : 6/3/2016

Version : 3

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1010016

Section 1. Identification

Product name : ACE® RUST STOP Indoor/Outdoor Enamel
Flat Black

Product code : 1010016

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Mfd. for:
ACE HARDWARE COPORATION
Oak Brook, IL 60521

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 47.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	23.0	67-64-1
Lt. Aliphatic Hydrocarbon Solvent	19.4	64742-89-8
Propane	13.8	74-98-6
Butane	13.2	106-97-8
Calcium Carbonate	6.9	471-34-1
Xylene	6.3	1330-20-7
Ethylbenzene	1.1	100-41-4
Carbon Black	0.6	1333-86-4
Methyl Ethyl Ketoxime	0.5	96-29-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours. TWA: 1188 mg/m³ 8 hours. STEL: 750 ppm 15 minutes. STEL: 1782 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes.
Calcium Carbonate	**OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
Xylene	**ACGIH TLV (United States, 4/2014).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Ethylbenzene	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 4/2014).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
Methyl Ethyl Ketoxime	**AIHA WEEL (United States, 10/2011). Skin sensitizer.** TWA: 10 ppm 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Section 9. Physical and chemical properties

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Aerosol product

Type of aerosol : Spray

Heat of combustion : 0.00002934 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m^3	4 hours
Calcium Carbonate	LD50 Oral	Rat	6450 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
Methyl Ethyl Ketoxime	LD50 Oral	Rat	930 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Calcium Carbonate	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Methyl Ethyl Ketoxime	Eyes - Severe irritant	Rabbit	-	100 microliters	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Ethylbenzene	-	2B	-
Carbon Black	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Lt. Aliphatic Hydrocarbon Solvent	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Lt. Aliphatic Hydrocarbon Solvent	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (gases)	29394.6 mg/kg 41602.4 ppm

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Lt. Aliphatic Hydrocarbon Solvent	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Calcium Carbonate	Acute LC50 >56000 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 61 mg/g Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	28 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Methyl Ethyl Ketoxime	Acute LC50 843000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high
Xylene	-	8.1 to 25.9	low
Methyl Ethyl Ketoxime	-	2.5 to 5.8	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY	**Special provisions** LIMITED QUANTITY	**Special provisions** (ERG#126)	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

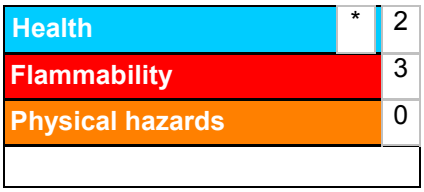
State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

Oxygen

Section 1. Identification

GHS product identifier : Oxygen

Chemical name : oxygen

Other means of identification : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

Product use : Synthetic/Analytical chemistry.

Synonym : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

SDS # : 001043

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : OXIDIZING GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May cause or intensify fire; oxidizer.
Contains gas under pressure; may explode if heated.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Open valve slowly. Use only with equipment cleaned for Oxygen service.

Prevention : Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves, valves and fittings free from oil and grease.

Response : In case of fire: Stop leak if safe to do so.

Storage : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : oxygen

Other means of identification : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

CAS number/other identifiers

CAS number : 7782-44-7

Product code : 001043

Ingredient name	%	CAS number
oxygen	100	7782-44-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Oxidizing material. This material increases the risk of fire and may aid combustion. Contact with combustible material may cause fire. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Section 7. Handling and storage

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves free from grease and oil. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Separate from acids, alkalies, reducing agents and combustibles. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

oxygen	None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [Compressed gas.]

Color : Colorless. Blue.

Molecular weight : 32 g/mole

Molecular formula : O2

Boiling/condensation point : -183°C (-297.4°F)

Melting/freezing point : -218.4°C (-361.1°F)

Critical temperature : -118.15°C (-180.7°F)

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Flash point : [Product does not sustain combustion.]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: reducing materials, combustible materials and organic materials.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : 1.1 (Air = 1)

Specific Volume (ft^3/lb) : 12.0482

Gas Density (lb/ft^3) : 0.083

Relative density : Not applicable.

Solubility : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : 0.65

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing fire

Conditions to avoid : No specific data.

Incompatible materials : Highly reactive or incompatible with the following materials:
combustible materials
reducing materials
grease
oil

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity
Not available.

Irritation/Corrosion
Not available.

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Section 11. Toxicological information

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
oxygen	0.65	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1072	UN1072	UN1072	UN1072	UN1072
UN proper shipping name	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED
Transport hazard class(es)	2.2 (5.1) 	2.2 	2.2 (5.1) 	2.2 (5.1) 	2.2 (5.1) 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 75 kg **Cargo aircraft** Quantity limitation: 150 kg **Special provisions** A52	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.23-2.25 (Class 5). **Explosive Limit and Limited Quantity Index** 0.125 **ERAP Index** 3000 **Passenger Carrying Ship Index** 50 **Passenger Carrying Road or Rail Index** 75 **Special provisions** 42	-	-	**Passenger and Cargo Aircraft** Quantity limitation: 75 kg **Cargo Aircraft Only** Quantity limitation: 150 kg

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: This material is listed or exempted.
United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
oxygen	100	No.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.
New York : This material is not listed.
New Jersey : This material is listed.
Pennsylvania : This material is listed.

International regulations

International lists

National inventory

Australia : This material is listed or exempted.
Canada : This material is listed or exempted.
China : This material is listed or exempted.
Europe : This material is listed or exempted.
Japan : Not determined.
Malaysia : Not determined.
New Zealand : This material is listed or exempted.
Philippines : This material is listed or exempted.
Republic of Korea : This material is listed or exempted.
Taiwan : This material is listed or exempted.

Section 15. Regulatory information

Canada

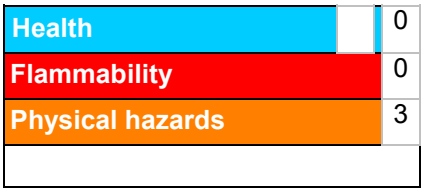
WHMIS (Canada) : Class A: Compressed gas.
Class C: Oxidizing material.

CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.
Class C: Oxidizing material.

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Ox. Gas 1, H270 Press. Gas Comp. Gas, H280	Expert judgment According to package

History

Date of printing : 1/27/2017

Date of issue/Date of revision : 1/27/2017

Date of previous issue : 8/26/2015

Version : 0.02

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Acetylene, dissolved

Safety Data Sheet P-4559

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 10/13/2016 Supersedes: 02/03/2016

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Acetylene, dissolved
CAS No	:	74-86-2
Formula	:	C2H2
Other means of identification	:	Acetylen, ethine, ethyne, narcylene

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Gas 1 H220
Dissolved gas H280

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS04

Signal word (GHS-US) : DANGER

Hazard statements (GHS-US) : H220 - **EXTREMELY FLAMMABLE GAS**
H231 - MAY REACT EXPLOSIVELY EVEN IN THE ABSENCE OF AIR AT ELEVATED PRESSURE AND/OR TEMPERATURE
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from Heat, Open flames, Sparks, Hot surfaces. - No smoking
P271+P403 - Use and store only outdoors or in a well-ventilated place
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P501 - Dispose of contents/container in accordance with container Supplier/owner instructions
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG13 - Fusible plugs in the top, bottom, or valve melt at 98 °C to 107 °C (208 °F to 224 °F). Do not discharge at pressures above 15 psig (103 kPa)

CGA-PG06 - Close valve after each use and when empty
CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

2.3. Other hazards

Other hazards not contributing to the classification : For safety reasons, the acetylene is dissolved in acetone (CAS # 67-64-1; Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) in the gas container. Vapor of the solvent is carried away as impurity when the acetylene is extracted from the gas container. The concentration of the solvent vapor in the gas is lower than the concentration limits to change the classification of the acetylene.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Name	Product identifier	%
Acetylene, dissolved (Main constituent)	(CAS No) 74-86-2	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : See below. See CGA Pamphlet SB-4, *Handling Acetylene Cylinders in Fire Situations,* for further information.

5.2. Special hazards arising from the substance or mixture

Fire hazard : **EXTREMELY FLAMMABLE GAS**. If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

Explosion hazard : **EXTREMELY FLAMMABLE GAS**. Forms explosive mixtures with air and oxidizing agents.

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions	:	Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
Protection during firefighting	:	Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
Special protective equipment for fire fighters	:	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Specific methods	:	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems Stop flow of product if safe to do so Use water spray or fog to knock down fire fumes if possible Continue water spray from protected position until container stays cool.
Other information	:	Acetylene containers are provided with pressure relief devices designed to vent contents when exposed to elevated temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Evacuate area. Ensure adequate ventilation. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post “No Smoking/No Open Flames” signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g, NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

Storage area : Acetylene trailers are designed and intended for outdoor use. Acetylene storage in excess of 2.500 cu ft (70.79 cubic meters) is prohibited in buildings and other occupancies.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetylene, dissolved (74-86-2)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : An explosion-proof local exhaust system or a mechanical system is acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing area. During welding, ensure that there is adequate ventilation to keep worker exposure below applicable limits for fumes, gases, and other by-products of welding. Do not breathe fumes or gases. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes, or may cause other similar discomfort.

Eye protection : Wear safety glasses with side shields.

Skin and body protection : As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder’s gloves and protective goggles, and may include arm protectors, aprons, hats, and shoulder protection as well as substantial clothing.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information : Consider the use of flame resistant anti-static safety clothing. Wear leather safety gloves and safety shoes when handling cylinders.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance	:	Colorless, odorless gas.
Molecular mass	:	26 g/mol
Color	:	Colorless.
Odor	:	Garlic like. Poor warning properties at low concentrations.
Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	-80.8 °C (-113.4°F)
Freezing point	:	No data available
Boiling point	:	-84 °C (-119.2°F)
Flash point	:	-17 °C (1.4°F)
Critical temperature	:	36 °C (97°F)
Auto-ignition temperature	:	305 °C (581°F)
Decomposition temperature	:	635 °C (1175°F)
Flammability (solid, gas)	:	2.5 - 100 vol %
Vapor pressure	:	44 bar (623 psig)
Critical pressure	:	61.38 bar (875 psig)
Relative vapor density at 20 °C	:	No data available
Relative density	:	Not applicable.
Density	:	0.0012 g/cm³ (at 0 °C)
Relative gas density	:	0.9
Solubility	:	Water: 1185 mg/l
Log Pow	:	0.37
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosion limits	:	No data available

9.2. Other information

Sublimation point	:	-83.3 °C
Gas group	:	Dissolved gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Dissolved in a solvent supported in a porous mass. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

May react explosively even in the absence of air. May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

High temperature. High pressure. Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5. Incompatible materials

Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper. Air, Oxidizer. Do not use alloys containing more than 43% silver.

10.6. Hazardous decomposition products

Thermal decomposition or burning may produce carbon monoxide, carbon dioxide, and hydrogen. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known ecological damage caused by this product.

12.2. Persistence and degradability

Acetylene, dissolved (74-86-2)	
Persistence and degradability	Will rapidly degrade by indirect photolysis in air. Will not undergo hydrolysis.

12.3. Bioaccumulative potential

Acetylene, dissolved (74-86-2)	
Log Pow	0.37
Log Kow	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

Acetylene, dissolved (74-86-2)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer : No known effects from this product

Effect on the global warming : No known effects from this product

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1001 Acetylene, dissolved, 2.1

UN-No.(DOT) : UN1001

Proper Shipping Name (DOT) : Acetylene, dissolved

Hazard labels (DOT) : 2.1 - Flammable gas

DOT Special Provisions (49 CFR 172.102) : N86 - UN pressure receptacles made of aluminum alloy are not authorized
N88 - Any metal part of a UN pressure receptacle in contact with the contents may not contain more than 65% copper, with a tolerance of 1%

Additional information

Emergency Response Guide (ERG) Number : 116 (UN1001)

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1001

Proper Shipping Name (IMDG) : Acetylene, dissolved

Class (IMDG) : 2 - Gases

MFAG-No : 116

Air transport

UN-No. (IATA) : 1001

Proper Shipping Name (IATA) : Acetylene, dissolved

Class (IATA) : 2

Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetylene, dissolved (74-86-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Reactive hazard Fire hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Acetylene, dissolved (74-86-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Acetylene, dissolved (74-86-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Acetylene, dissolved (74-86-2)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

Acetylene, dissolved(74-86-2)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Other information : When using this product in welding and cutting, read and understand the manufacturer's instructions and the precautionary label on the product. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, Precautions and Safe Practices for Gas Welding, Cutting, and Heating, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, published by the American Welding Society (AWS), www.aws.org. Order AWS documents from Global Engineering Documents, global.ihs.com. Arcs and sparks can ignite combustible materials. Prevent fires. Refer to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hotwork. Do not strike an arc on the container. The defect produced by an arc burn may lead to container rupture

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases

When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

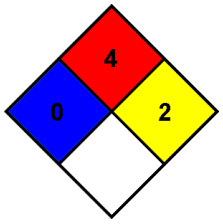
The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc, P.O. Box 44, Tonawanda, NY 14151-0044)

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



HMIS III Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 4 Severe Hazard
Physical	: 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Acetylene, dissolved
CAS No	:	74-86-2
Formula	:	C2H2
Other means of identification	:	Acetylen, ethine, ethyne, narcylene

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergency: 1-800-645-4633 CHEMTREC, 24 hr/day 7 days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Gas 1 H220
Dissolved gas H280

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS02 GHS04

Signal word (GHS-US) : DANGER

Hazard statements (GHS-US) :
H220 - EXTREMELY FLAMMABLE GAS
H231 - MAY REACT EXPLOSIVELY EVEN IN THE ABSENCE OF AIR AT ELEVATED PRESSURE AND/OR TEMPERATURE
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS-US) :
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from Heat, Open flames, Sparks, Hot surfaces. - No smoking
P271+P403 - Use and store only outdoors or in a well-ventilated place
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P501 - Dispose of contents/container in accordance with container Supplier/owner instructions
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG13 - Fusible plugs in the top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15 psig (103 kPa)
CGA-PG06 - Close valve after each use and when empty

CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

2.3. Other hazards

Other hazards not contributing to the classification : For safety reasons, the acetylene is dissolved in acetone (CAS no. 67-64-1; Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) in the gas container. Vapour of the solvent is carried away as impurity when the acetylene is extracted from the gas container. The concentration of the solvent vapour in the gas is lower than the concentration limits to change the classification of the acetylene.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%
Acetylene, dissolved (Main constituent)	(CAS No) 74-86-2	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

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First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : See below. See CGA Pamphlet SB-4, Handling Acetylene Cylinders in Fire Situations, for further information.

5.2. Special hazards arising from the substance or mixture

Fire hazard : EXTREMELY FLAMMABLE GAS. If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

Explosion hazard : EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air and oxidizing agents.

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions	:	Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
Protection during firefighting	:	Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
Special protective equipment for fire fighters	:	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Specific methods	:	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems Stop flow of product if safe to do so Use water spray or fog to knock down fire fumes if possible Continue water spray from protected position until container stays cool.
Other information	:	Acetylene containers are provided with pressure relief devices designed to vent contents when exposed to elevated temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Evacuate area. Ensure adequate ventilation. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post “No Smoking" or "Open Flames” signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g., NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

Storage area : Acetylene trailers are designed and intended for outdoor use. Acetylene storage in excess of 2.500 cu ft (70.79 cubic meters) is prohibited in buildings and other occupancies.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetylene, dissolved (74-86-2)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : An explosion-proof local exhaust system or a mechanical system is acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing area. During welding, ensure that there is adequate ventilation to keep worker exposure below applicable limits for fumes, gases, and other by-products of welding. Do not breathe fumes or gases. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes, or may cause other similar discomfort.

Eye protection : Wear safety glasses with side shields.

Skin and body protection : As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder’s gloves and protective goggles, and may include arm protectors, aprons, hats, and shoulder protection as well as substantial clothing.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information : Consider the use of flame resistant anti-static safety clothing. Wear leather safety gloves and safety shoes when handling cylinders.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance	:	Colorless, odorless gas.
Molecular mass	:	26 g/mol
Colour	:	Colourless.
Odour	:	Garlic like. Poor warning properties at low concentrations.
Odour threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	-80.8 °C (-113.4°F)
Freezing point	:	No data available
Boiling point	:	-84 °C (-119.2°F)
Flash point	:	-17 °C (1.4°F)
Critical temperature	:	36 °C (97°F)
Auto-ignition temperature	:	305 °C (581°F)
Decomposition temperature	:	635 °C (1175°F)
Flammability (solid, gas)	:	2.5 - 100 vol %
Vapour pressure	:	44 bar (623 psig)
Critical pressure	:	61.38 bar (875 psig)
Relative vapour density at 20 °C	:	No data available
Relative density	:	Not applicable.
Density	:	0.0012 g/cm³ (at 0 °C)
Relative gas density	:	0.9
Solubility	:	Water: 1185 mg/l
Log Pow	:	0.37
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidising properties	:	None.
Explosive limits	:	No data available

9.2. Other information

Sublimation point	:	-83.3 °C
Gas group	:	Dissolved gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Dissolved in a solvent supported in a porous mass. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

May react explosively even in the absence of air. May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

High temperature. High pressure. Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5. Incompatible materials

Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper. Air, Oxidiser. Do not use alloys containing more than 43% silver.

10.6. Hazardous decomposition products

Thermal decomposition or burning may produce carbon monoxide, carbon dioxide, and hydrogen. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known ecological damage caused by this product.

12.2. Persistence and degradability

Acetylene, dissolved (74-86-2)	
Persistence and degradability	Will rapidly degrade by indirect photolysis in air. Will not undergo hydrolysis.

12.3. Bioaccumulative potential

Acetylene, dissolved (74-86-2)	
Log Pow	0.37
Log Kow	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

Acetylene, dissolved (74-86-2)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer : No known effects from this product

Effect on the global warming : No known effects from this product

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1001 Acetylene, dissolved

UN-No.(DOT) : UN1001

Proper Shipping Name (DOT) : Acetylene, dissolved

Hazard labels (DOT) : 2.1 - Flammable gas

DOT Special Provisions (49 CFR 172.102) : N86 - UN pressure receptacles made of aluminum alloy are not authorized
N88 - Any metal part of a UN pressure receptacle in contact with the contents may not contain more than 65% copper, with a tolerance of 1%

Additional information

Emergency Response Guide (ERG) Number : 116 (UN1001)

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1001

Proper Shipping Name (IMDG) : Acetylene, dissolved

Class (IMDG) : 2 - Gases

MFAG-No : 116

Air transport

UN-No. (IATA) : 1001

Proper Shipping Name (IATA) : Acetylene, dissolved

Class (IATA) : 2

Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetylene, dissolved (74-86-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Reactive hazard Fire hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Acetylene, dissolved (74-86-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Acetylene, dissolved (74-86-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Acetylene, dissolved (74-86-2)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

Acetylene, dissolved(74-86-2)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Other information : When using this product in welding and cutting, read and understand the manufacturer's instructions and the precautionary label on the product. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, Precautions and Safe Practices for Gas Welding, Cutting, and Heating, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, published by the American Welding Society (AWS), www.aws.org. Order AWS documents from Global Engineering Documents, global.ihs.com. Arcs and sparks can ignite combustible materials. Prevent fires. Refer to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hotwork. Do not strike an arc on the container. The defect produced by an arc burn may lead to container rupture

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases

When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

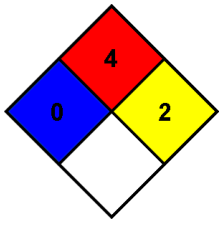
The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044)

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



HMIS III Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 4 Severe Hazard
Physical	: 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

Oxygen

Section 1. Identification

GHS product identifier : Oxygen

Chemical name : oxygen

Other means of identification : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

Product use : Synthetic/Analytical chemistry.

Synonym : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

SDS # : 001043

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : OXIDIZING GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May cause or intensify fire; oxidizer.
Contains gas under pressure; may explode if heated.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Open valve slowly. Use only with equipment cleaned for Oxygen service.

Prevention : Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves, valves and fittings free from oil and grease.

Response : In case of fire: Stop leak if safe to do so.

Storage : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : oxygen

Other means of identification : Molecular oxygen; Oxygen molecule; Pure oxygen; O2; UN 1072; Dioxygen; Oxygen USP, Aviator's Breathing Oxygen (ABO)

CAS number/other identifiers

CAS number : 7782-44-7

Product code : 001043

Ingredient name	%	CAS number
oxygen	100	7782-44-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Oxidizing material. This material increases the risk of fire and may aid combustion. Contact with combustible material may cause fire. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Section 7. Handling and storage

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Keep away from clothing, incompatible materials and combustible materials. Keep reduction valves free from grease and oil. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Separate from acids, alkalies, reducing agents and combustibles. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

oxygen	None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [Compressed gas.]

Color : Colorless. Blue.

Molecular weight : 32 g/mole

Molecular formula : O2

Boiling/condensation point : -183°C (-297.4°F)

Melting/freezing point : -218.4°C (-361.1°F)

Critical temperature : -118.15°C (-180.7°F)

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Flash point : [Product does not sustain combustion.]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: reducing materials, combustible materials and organic materials.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : 1.1 (Air = 1)

Specific Volume (ft^3/lb) : 12.0482

Gas Density (lb/ft^3) : 0.083

Relative density : Not applicable.

Solubility : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : 0.65

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing fire

Conditions to avoid : No specific data.

Incompatible materials : Highly reactive or incompatible with the following materials:
combustible materials
reducing materials
grease
oil

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity
Not available.

Irritation/Corrosion
Not available.

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Section 11. Toxicological information

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
oxygen	0.65	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1072	UN1072	UN1072	UN1072	UN1072
UN proper shipping name	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED	OXYGEN, COMPRESSED
Transport hazard class(es)	2.2 (5.1) 	2.2 	2.2 (5.1) 	2.2 (5.1) 	2.2 (5.1) 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 75 kg **Cargo aircraft** Quantity limitation: 150 kg **Special provisions** A52	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.23-2.25 (Class 5). **Explosive Limit and Limited Quantity Index** 0.125 **ERAP Index** 3000 **Passenger Carrying Ship Index** 50 **Passenger Carrying Road or Rail Index** 75 **Special provisions** 42	-	-	**Passenger and Cargo Aircraft** Quantity limitation: 75 kg **Cargo Aircraft Only** Quantity limitation: 150 kg

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: This material is listed or exempted.

United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
oxygen	100	No.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : Not determined.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Section 15. Regulatory information

Canada

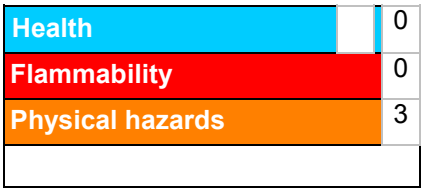
WHMIS (Canada) : Class A: Compressed gas.
Class C: Oxidizing material.

CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.
Class C: Oxidizing material.

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Ox. Gas 1, H270 Press. Gas Comp. Gas, H280	Expert judgment According to package

History

Date of printing : 8/26/2015

Date of issue/Date of revision : 8/26/2015

Date of previous issue : No previous validation

Version : 0.01

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Acetylene, dissolved
CAS No	:	74-86-2
Formula	:	C2H2
Other means of identification	:	Acetylen, ethine, ethyne, narcylene

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergency: 1-800-645-4633 CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Gas 1 H220
Dissolved gas H280

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02 GHS04

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H220 - EXTREMELY FLAMMABLE GAS
H231 - MAY REACT EXPLOSIVELY EVEN IN THE ABSENCE OF AIR AT ELEVATED PRESSURE AND/OR TEMPERATURE
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS-US) :
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, Open flames, sparks, hot surfaces. - No smoking
P271+P403 - Use and store only outdoors or in a well-ventilated place.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P501 - Dispose of contents/container in accordance with container supplier/owner instructions
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG13 - Fusible plugs in the top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15 psig (103 kPa).
CGA-PG06 - Close valve after each use and when empty.

CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

Other hazards not contributing to the classification : For safety reasons, the acetylene is dissolved in acetone (CAS # 67-64-1; Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) in the gas container. Vapor of the solvent is carried away as impurity when the acetylene is extracted from the gas container. The concentration of the solvent vapor in the gas is lower than the concentration limits to change the classification of the acetylene.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%
Acetylene, dissolved (Main constituent)	(CAS No) 74-86-2	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : See below. See CGA Pamphlet SB-4, Handling Acetylene Cylinders in Fire Situations, for further information.

5.2. Special hazards arising from the substance or mixture

Fire hazard : EXTREMELY FLAMMABLE GAS. If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

Explosion hazard : EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air and oxidizing agents.

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions	:	Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
Protection during firefighting	:	Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
Special protective equipment for fire fighters	:	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Specific methods	:	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Stop flow of product if safe to do so. Use water spray or fog to knock down fire fumes if possible. Continue water spray from protected position until container stays cool.
Other information	:	Acetylene containers are provided with pressure relief devices designed to vent contents when exposed to elevated temperature.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Evacuate area. Ensure adequate ventilation. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment.

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g., NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

Storage area : Acetylene trailers are designed and intended for outdoor use. Acetylene storage in excess of 2.500 cu ft (70.79 cubic meters) is prohibited in buildings and other occupancies.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetylene, dissolved (74-86-2)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : An explosion-proof local exhaust system or a mechanical system is acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing area. During welding, ensure that there is adequate ventilation to keep worker exposure below applicable limits for fumes, gases, and other by-products of welding. Do not breathe fumes or gases. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes, or may cause other similar discomfort.

Eye protection : Wear safety glasses with side shields.

Skin and body protection : As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, and shoulder protection as well as substantial clothing.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information : Consider the use of flame resistant anti-static safety clothing. Wear leather safety gloves and safety shoes when handling cylinders.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance	:	Colorless, odorless gas.
Molecular mass	:	26 g/mol
Color	:	Colorless.
Odor	:	Garlic like.
Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	-80.8 °C
Freezing point	:	No data available
Boiling point	:	-84 °C
Flash point	:	No data available
Critical temperature	:	36 °C
Auto-ignition temperature	:	305 °C
Decomposition temperature	:	635 °C
Flammability (solid, gas)	:	2.5 - 100 vol %
Vapor pressure	:	4400 kPa
Critical pressure	:	6138 kPa
Relative vapor density at 20 °C	:	No data available
Relative density	:	Not applicable.
Specific gravity / density	:	0.0012 g/cm³ (at 0 °C)
Relative gas density	:	0.9
Solubility	:	Water: 1185 mg/l
Log Pow	:	0.37
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosive limits	:	No data available

9.2. Other information

Sublimation point	:	-83.3 °C
Gas group	:	Dissolved gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Dissolved in a solvent supported in a porous mass. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

May react explosively even in the absence of air. May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

High temperature. High pressure. Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5. Incompatible materials

Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper. Air, Oxidizer. Do not use alloys containing more than 43% silver.

10.6. Hazardous decomposition products

Thermal decomposition or burning may produce carbon monoxide, carbon dioxide, and hydrogen. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

No known effects from this product.

Aspiration hazard : Not classified

Not applicable.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No known ecological damage caused by this product.

12.2. Persistence and degradability

Acetylene, dissolved (74-86-2)	
Persistence and degradability	Will rapidly degrade by indirect photolysis in air. Will not undergo hydrolysis.

12.3. Bioaccumulative potential

Acetylene, dissolved (74-86-2)	
Log Pow	0.37
Log Kow	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

Acetylene, dissolved (74-86-2)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer : No known effects from this product.

Effect on the global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1001 Acetylene, dissolved

UN-No.(DOT) : UN1001

Proper Shipping Name (DOT) : Acetylene, dissolved

Hazard labels (DOT) : 2.1 - Flammable gas

DOT Special Provisions (49 CFR 172.102) : N86 - UN pressure receptacles made of aluminum alloy are not authorized.
N88 - Any metal part of a UN pressure receptacle in contact with the contents may not contain more than 65% copper, with a tolerance of 1%.

Additional information

Emergency Response Guide (ERG) Number : 116 (UN1001)

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1001

Proper Shipping Name (IMDG) : Acetylene, dissolved

Class (IMDG) : 2 - Gases

MFAG-No : 116

Air transport

UN-No.(IATA) : 1001

Proper Shipping Name (IATA) : Acetylene, dissolved

Class (IATA) : 2

Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetylene, dissolved (74-86-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Reactive hazard Fire hazard

15.2. International regulations

CANADA

Acetylene, dissolved (74-86-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class F - Dangerously Reactive Material

EU-Regulations

Acetylene, dissolved (74-86-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Flam. Gas 1 H220
Dissolved gas H280

Full text of H-phrases: see section 16

15.2.2. National regulations

Acetylene, dissolved (74-86-2)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

Acetylene, dissolved(74-86-2)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 1/12/2015 12:00:00 AM

Other information : When using this product in welding and cutting, read and understand the manufacturer's instructions and the precautionary label on the product. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, Precautions and Safe Practices for Gas Welding, Cutting, and Heating, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, published by the American Welding Society (AWS), www.aws.org. Order AWS documents from Global Engineering Documents, global.ihs.com. Arcs and sparks can ignite combustible materials. Prevent fires. Refer to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hotwork. Do not strike an arc on the container. The defect produced by an arc burn may lead to container rupture.

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases.

When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044).

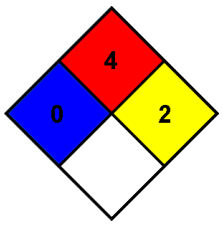
Full text of H-phrases:

Dissolved gas	Gases under pressure Dissolved gas
Flam. Gas 1	Flammable gases Category 1
H220	EXTREMELY FLAMMABLE GAS
H280	CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



HMIS III Rating

Health	: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability	: 4 Severe Hazard
Physical	: 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: AET; CSS-1H (REG)

1.2. Intended Use of the Product

Use of the substance/mixture: Emulsion. PA Tack coat. Tack coat / CIR / FDR.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Russell Standard
285 Kappa Drive
Suite 300
Pittsburgh, PA 15238
(800) 323-3053
(412) 449-0700
(412) 449-0704

1.4. Emergency Telephone Number

Emergency Number : (412) 449-0700

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 2	H371
STOT RE 2	H373

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS07 GHS08

Signal Word (GHS-US) : Warning

Hazard Statements (GHS-US) : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H351 - Suspected of causing cancer.
H371 - May cause damage to organs.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, and eye protection.
P302+P352 - If on skin: Wash with plenty of water.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. This material or its emissions may defat skin, cause contact dermatitis, or aggravate existing skin disease. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal, and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	34 - 72	Not classified
Asphalt	(CAS No) 8052-42-4	28 - 66	Carc. 2, H351
Asphalt Emulsifier A	(CAS No) Proprietary	0 - 2.5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373
Asphalt Emulsifier B	(CAS No) Proprietary	0 - 2.5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT RE 2, H373
Asphalt Emulsifier C	(CAS No) Proprietary	0 - 2.5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT SE 2, H371
Proprietary Ingredient D	(CAS No) Proprietary	0 - 1	Comb. Dust
Hydrochloric acid	(CAS No) 7647-01-0	0.2 - 0.5	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401

*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].
Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: In molten form: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: In molten form: Immerse in cool water/wrap in wet bandages. Removal of solidified molten material from the eyes requires medical assistance. Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes serious eye irritation. Causes skin irritation. Skin sensitization. Suspected of causing cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

Symptoms/Injuries After Inhalation: WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20 ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid unconsciousness and death if not promptly revived. Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Risk of thermal burns on contact with molten product. Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Risk of thermal burns on contact with molten product. Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: May damage organs through prolonged or repeated exposure. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin. Seek medical attention immediately. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water when molten material is involved, may react violently or explosively on contact with water. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes including carbon monoxide, carbon dioxide, oxides of sulfur and hydrogen sulfide will be present. Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe vapors from molten product. Do not get in eyes, on skin, or on clothing. Avoid all contact with skin, eyes, or clothing. Do not breathe vapors from molten product.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Where possible allow molten material to solidify naturally. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Cool molten material to limit spreading. Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Cold mix asphalt is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures. Do not stand on stockpiles of cold patch asphalt, they may be unstable. May release corrosive vapors. May release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing. Do not breathe fume/gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids, strong bases, strong oxidizers, when molten: water.

7.3. Specific End Use(s)

Emulsion. PA Tack coat. Tack coat / CIR / FDR.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free
USA ACGIH	Biological Exposure Indices (BEI)	(Medium: urine - Time: end of shift at end of workweek - Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

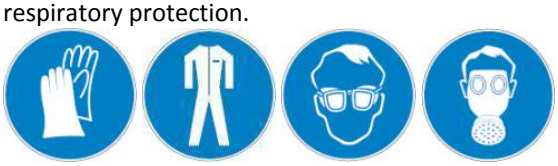
Asphalt Emulsifier C		
USA AIHA	WEEL TWA (mg/m³)	10 mg/m³ 8 hour exposure

Hydrochloric acid (7647-01-0)		
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	7 mg/m³
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
USA IDLH	US IDLH (ppm)	50 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	7 mg/m³
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

8.2. Exposure Controls

Appropriate Engineering Controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment : Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing : Chemically resistant materials and fabrics.
Hand Protection : Wear protective gloves.
Eye Protection : Chemical safety goggles.
Skin and Body Protection : Wear suitable protective clothing.
Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Liquid
Appearance : Black / Brown
Odor : Asphalt
Odor Threshold : No data available
pH : 2 - 5
Evaporation Rate : No data available
Melting Point : No data available
Freezing Point : No data available
Boiling Point : 212 °F (100 °C)
Flash Point : No data available
Auto-ignition Temperature : No data available
Decomposition Temperature : No data available
Flammability (solid, gas) : No data available
Vapor Pressure : No data available
Relative Vapor Density at 20 °C : No data available
Relative Density : No data available
Specific Gravity : 0.9-1.1
Specific gravity / density : 7.5 - 9.2 lb/gal
Solubility : No data available
Partition Coefficient: N-Octanol/Water : No data available
Viscosity : 5-100 SFS

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.
10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers, when molten: water.
10.6. Hazardous Decomposition Products: Hydrocarbons. Carbon oxides (CO, CO_2). Hydrogen sulfide. Sulfur oxides. Amines.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg

LC50 Inhalation Rat	> 94.4 mg/m³

Asphalt Emulsifier A	
LD50 Oral Rat	3886.9 mg/kg
LD50 Dermal Rat	8635.9 mg/kg
LC50 Inhalation Rat	4.966 mg/l/4h

Asphalt Emulsifier B	
ATE (Dust/Mist)	1.50 mg/l/4h

A**sphalt Emulsifier C**	
LD50 Oral Rat	1673 mg/kg
LD50 Dermal Rat	11435.6 mg/kg

Hydrochloric acid (7647-01-0)	
LD50 Dermal Rabbit	> 5010 mg/kg

Skin Corrosion/Irritation: Causes skin irritation.

pH: 2 - 5

Serious Eye Damage/Irritation: Causes serious eye irritation.

pH: 2 - 5

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Twelfth Report - Items under consideration.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Hydrochloric acid (7647-01-0)	
IARC group	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause damage to organs.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20 ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid unconsciousness and death if not promptly revived. Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Risk of thermal burns on contact with molten product. Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Risk of thermal burns on contact with molten product. Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: May damage organs through prolonged or repeated exposure. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Hydrochloric acid (7647-01-0)	
LC50 Fish 1	3.25 - 3.5 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	4.92 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and Degradability

AET; CSS-1H (REG)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

AET; CSS-1H (REG)	
Bioaccumulative Potential	Not established.

Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

AET; CSS-1H (REG)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Hydrochloric acid (7647-01-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500 (gas only)
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Proprietary Ingredient D (Proprietary)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations

Asphalt Emulsifier A	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.

Asphalt (8052-42-4)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Hydrochloric acid (7647-01-0)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 02/01/2016

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 2	Specific target organ toxicity (single exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
	May form combustible dust concentrations in air
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

M A T E R I A L S A F E T Y D A T A S H E E T

I. IDENTIFICATION

MANUFACTURED BY: Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041

24 Hour Emergency Telephone
CHEMTREC 1-800-424-9300

REVISED: 03/12/2014
PRINTED: 03/19/2014

General Information:
Mon-Fri 8 AM - 5 PM
712-737-4993

TRADE NAME: Ag Yellow Enamel L/F

MFG. PRODUCT NUMBER: IB-3531

II. HAZARDOUS INGREDIENTS

CAS #1330-20-7 Xylene — WT %: 20-50 — Footnote: (1)
ACGIH TLV: 100 ppm — ACGIH STEL: 150 ppm
OSHA PEL: 100 ppm — OSHA CEILING: NE — OSHA PEAK: NE
VAPOR PRESSURE: 7 mmHg@20C — LEL%: 1

CAS #13463-67-7 Titanium dioxide — WT %: 5-20 — Footnote: (2)
ACGIH TLV: 10mg/m3 TWA — ACGIH STEL:
OSHA PEL: — OSHA CEILING: — OSHA PEAK:
VAPOR PRESSURE: — LEL%:

CAS #100-41-4 Ethyl Benzene — WT %: 5-20 — Footnote: (3)
ACGIH TLV: 100 ppm — ACGIH STEL: 125 ppm
OSHA PEL: 100 ppm — OSHA CEILING: NE — OSHA PEAK: NE
VAPOR PRESSURE: 10 mmHg@20C — LEL%: 1

CAS #108-88-3 Toluene — WT %: 5-20 — Footnote: (1)
ACGIH TLV: 50 ppm TWA — ACGIH STEL:
OSHA PEL: 200 ppm TWA — OSHA CEILING: 300 ppm — OSHA PEAK: 500 ppm
VAPOR PRESSURE: 23.0 mm Hg — LEL%: 1.3

CAS #64742-49-0 Aliphatic Hydrocarbon — WT %: 1-5 — Footnote: (1)
ACGIH TLV: 300 ppm TWA — ACGIH STEL: N.E.
OSHA PEL: 300 ppm TWA — OSHA CEILING: N.E. — OSHA PEAK:
VAPOR PRESSURE: — LEL%:

CAS #64742-89-8 Solvent Naphtha, Light Aliphatic — WT %: 1-5 — Footnote: (1)
ACGIH TLV: 300ppm TWA — ACGIH STEL: N.E.
OSHA PEL: 300ppm TWA — OSHA CEILING: — OSHA PEAK:
VAPOR PRESSURE: 5.2mm HG — LEL%:

CAS # Cobalt Compounds — WT %: 0.126 — Footnote: (4)
ACGIH TLV: — ACGIH STEL:
OSHA PEL: — OSHA CEILING: — OSHA PEAK:
VAPOR PRESSURE: — LEL%:

WARNING MESSAGES:
(1) Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Chronic exposure may cause damage to the central nervous system, respiratory system, lung, eye, skin, liver, gastrointestinal tract, spleen, kidneys, and blood.
(2) International Agency for Research on Cancer (IARC) Monograph Volume 93 (2010) concludes that Titanium dioxide is "possibly carcinogenic to humans (Group 2B)" based on

inadequate evidence in humans and sufficient evidence in experimental animals.
(3) International Agency for Research on Cancer (IARC) Monograph Volume 77 (2000) concluded that Ethylbenzene is "possibly carcinogenic to humans (Group 2B)" based on inadequate evidence in humans and sufficient evidence in experimental animals.
(4) International Agency for Research on Cancer (IARC) Monograph Volume 52 (1991) concludes that Cobalt Compounds are "possibly carcinogenic to humans (Group 2B)" based on inadequate evidence in humans and, as a group, sufficient evidence in experimental animals.
(5) See Section IX for reportable Hazardous Air Pollutants.

III. PHYSICAL DATA

BOILING RANGE: 230-297° F

EVAPORATION RATE: * slower than ether *

PERCENT VOLATILE BY VOLUME: 65.75% WEIGHT PER GALLON: 8.51 LBS

VAPOR DENSITY: * heavier than air *

ACTUAL VOC (lb/gal): 4.67
EPA VOC (lb/gal): 4.67 EPA VOC (g/L): 559.65

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 9° C 48° F LEL: Refer to Section II

FLAMMABILITY CLASSIFICATION: CLASS 1B

HAZARD CLASSIFICATION: *Flammable Liquid

EXTINGUISHING MEDIA: *carbon dioxide, dry chemical, or fire foam*

UNUSUAL FIRE AND EXPLOSION HAZARDS: keep away from heat, sparks, and flame.

SPECIAL FIRE FIGHTING PROCEDURES: Water is unsuitable, but may be used to cool closed containers.

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF OVEREXPOSURE:

Acute- High vapor concentrations are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

Chronic- Xylene contains ethylbenzene which has been classified as a possible carcinogen to humans, Group 2B, by the International Agency for Research on Cancer(IARC), based on sufficient evidence in laboratory animals but inadequate evidence for

cancer in humans. Prolonged or repeated overexposure to ethylbenzene may cause the following: kidney effects, liver effects, lung effects, thyroid effects, testicular effects, pituitary effects.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: consult physician

PRIMARY ROUTE(S) OF ENTRY: Skin and Inhalation

EMERGENCY AND FIRST AID PROCEDURES:
INHALATION: Remove to fresh air. Restore breathing. Treat symptomatically. Consult a physician.
EYES: Flush immediately with large amounts of water for at least 15 minutes. Talk to a physician for medical treatment.
SKIN: Wipe off with towel. Wash with soap and water. Remove contaminated clothing.
INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a medical personnel. Never give anything by mouth to an unconscious person.

VI. REACTIVITY DATA

STABILITY: *stable* HAZARDOUS POLYMERIZATION: *will not occur*

INCOMPATIBILITY: * unknown *

HAZARDOUS DECOMPOSITION PRODUCTS: Fire, burning and welding may generate carbon monoxide.
CONDITIONS TO AVOID: Fire, burning, and welding.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Use non-sparking tools. Remove with inert absorbant.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: In confined areas of poor ventilation, use chemical cartridge respirator or self-contained breathing apparatus.

VENTILATION: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV and LEL of most hazardous ingredient in Section II, below acceptable limit.

PROTECTIVE GLOVES: None required except for prolonged contact.

EYE PROTECTION:
Splash proof eye goggles. In emergency situations, use eye goggles with a full face shield.

OTHER PROTECTIVE EQUIPMENT: *none*

HYGIENIC PRACTICES: See Section V

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store near heat, sparks, or flame.

OTHER PRECAUTIONS: * none *

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Ingredient	CAS #	Wt% of HAPS in product	Pounds HAPS/ Gal product
Xylene	1330-20-7	35.6 %	3.0
Ethyl Benzene	100-41-4	6.3 %	0.5
Toluene	108-88-3	5.6 %	0.5

MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Air Brake Anti-Freeze & Conditioner**

Product Number (s): **75528, 75532**

Product Use: Air brake anti-freeze

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Poison. May be Fatal or Cause Blindness if Swallowed.
Flammable. Vapor Harmful.
Appearance & Odor: Colorless liquid, characteristic pungent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation. Symptoms include stinging, tearing, and redness.

SKIN: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful, and may cause irritation of airways, dizziness, drowsiness, nausea, and vomiting.

INGESTION: Swallowing this material may be harmful. Symptoms may include nausea, vomiting, dizziness, leg cramps, pain in the abdomen or lower back, blurred vision, shortness of breath, visual impairment (including blindness), coma, and death.

CHRONIC EFFECTS: Overexposure to this material may cause liver abnormalities, central nervous system damage, and visual impairment.

TARGET ORGANS: Liver, kidneys, pancreas, heart, lungs, and brain

Medical Conditions Aggravated by Exposure: Preexisting disorders of the following organs: Skin, lung, liver, kidney, central nervous system, pancreas, and heart.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition / Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Methanol	67-56-1	> 99
Oxazoline additive	Proprietary	< 1

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Note to Physicians: Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and may be used as an antidote in the treatment of methanol poisoning.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is a flammable liquid.

Flash Point:	54°F / 12°C (TCC)	Upper Explosive Limit:	36
Autoignition Temperature:	725°F / 385°C	Lower Explosive Limit:	7.3

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, alcohol-resistant foam, carbon dioxide (CO_2)

Products of Combustion: Carbon dioxide and carbon monoxide.

Explosion Hazards: Containers, when exposed to heat from fire, may build pressure and rupture.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains. If run-off occurs, notify the proper authorities as required, that a spill has occurred.

Methods for Containment & Clean-up: Eliminate all ignition sources. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Avoid contact with skin and eyes. Do not use near sources of ignition or energized equipment. Static ignition hazard can result from handling and use. Electrically bond and ground all containers and equipment before transfer or use of material. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Keep containers closed when not in use. Keep out of reach of children and pets.

Aerosol Storage Level: NA

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Methanol	200	NE	200 (s)	250 (s)	NE		ppm
Oxazoline additive	25	NE	10	NE	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile or natural rubber. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: colorless
Odor: characteristic pungent odor
Odor Threshold: ND
Specific Gravity: 0.792
Initial Boiling Point: 148°F / 64°C
Freezing Point: ND
Vapor Pressure: 16.93 kPa @ 77°F / 25°C
Vapor Density: 1.1 (air = 1)
Evaporation Rate: fast
Solubility: completely soluble in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 100 g/L: 792 lbs./gal: 6.6

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition.

Incompatible Materials: Hypochlorites, peroxides, reactive metals such as aluminum and magnesium, sodium, strong acids, strong bases, strong oxidizing agents, zinc

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Methanol	5628 mg/kg	15,800 mg/kg	64,000 ppm/4H
Oxazoline additive	725 mg/kg	> 2000 mg/kg	400 ppm/6H

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Methanol	No	No	No	eye, skin	Unknown
Oxazoline additive	No	No	No	No	No

Reproductive Toxicity: No information available
Teratogenicity: Methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations of methanol vapors.
Mutagenicity: No information available

Synergistic Effects: High concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins.

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: No information available
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: This product is a hazardous waste for the characteristic of ignitability with the following potential waste codes: D001, F003, U154.
Empty containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

DOT (ground):	**75532**	UN1230, Methanol, 3, PGII, Limited Quantity
	75528	UN1230, Methanol, 3, PG II
ICAO/IATA (air):	**75532**	UN1230, Methanol, 3 (6.1), PG II, Limited Quantity
	75528	UN1230, Methanol, 3 (6.1), PGII
IMO/IMDG (water):	**75532**	UN1230, Methanol, 3 (6.1), PG II, Limited Quantity
	75528	UN1230, Methanol, 3 (6.1), PGII

Special Provisions: None

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: Methanol (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	Yes
	Reactive Hazard	No

Release of Pressure	No
Acute Health Hazard	Yes
Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Methanol (> 99%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): Methanol

Canadian Regulations:

Controlled Products Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulation and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: B2, D1B, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

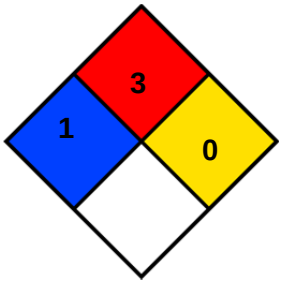
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	**1**
Flammability:	**3**
Reactivity:	**0**
PPE:	**B**

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 620B
Revision Date: 04/01/2015

Changes since last revision: Product numbers

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and

directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS:	Chemical Abstract Service
CFR:	Code of Federal Regulations
DOT:	Department of Transportation
DSL:	Domestic Substance List
g/L:	grams per Liter
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods
IMO:	International Maritime Organization
lbs./gal:	pounds per gallon
LC:	Lethal Concentration
LD:	Lethal Dose
NA:	Not Applicable
ND:	Not Determined
NIOSH:	National Institute of Occupational Safety & Health
NFPA:	National Fire Protection Association
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PMCC:	Pensky-Martens Closed Cup
PPE:	Personal Protection Equipment
ppm:	Parts per Million
RoHS:	Restriction of Hazardous Substances
STEL:	Short Term Exposure Limit
TCC:	Tag Closed Cup
TWA:	Time Weighted Average
WHMIS:	Workplace Hazardous Materials Information System

Air Tool Lubricant Safety Data Sheet

Product #'s : ATL004, ATL016, ATL032, ATL128, ATL55, A145-4, A145-16, A145-32, A145-128

Section 1 : Chemical Product And Company Information

Product Name : Air Tool Lubricant

Manufacturer Name : Coilhose Pneumatics/Acme Automotive
19 Kimberly Road
East Brunswick, NJ 08816 USA

General Information : (732) 390-8480, Monday – Friday 8:00 AM to 5:30 PM EST
(503) 434-5964, Monday – Friday 8:00 AM to 5:30 PM PST

Emergency Information : (800) 222-1222 (Poison Control USA) 24 Hours
(800) 424-9300 (CHEMTREC) 24 Hours

Transportation Information : Not regulated by Department of Transportation (DOT)

Section 2 : Hazard Identification

Hazardous Materials Identification System (HMIS) :

Health	Flammability	Reactivity
1	1	0

Chemical Name : Not Applicable - Mixture

Chemical Family : Petroleum Hydrocarbon

Product Appearance and Odor : Amber Liquid, petroleum odor

Route of Exposure : Inhalation and skin contact

Potential Health Effects : Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis. Product contacting the eye may cause irritation. Product has a low order of oral and dermal toxicity. Possible aspiration hazard. Induced vomiting may cause aspiration of product into the lungs.

Carcinogenicity : None

OSHA Designation : None

NTP Designation : None

IARC Designation : None

Signs/Symptoms : Skin and eye irritation, defatting of skin, nausea and vomiting.

Section 3 : Chemical Composition

Chemical Name	CAS #(s)	Percent
Petroleum based lubricating oil	64742-54-7, 64742-65-0	>99%

OSHA PEL TWA: 5 mg/m^3

ACGIH TLV TWA: 5 mg/m^3

ACGIH STEL/Ceiling Not provided

Chemical Name	CAS #(s)	Percent
Butylated hydroxytoluene	128-39-2	<1%

OSHA PEL TWA: Not established

ACGIH TLV TWA: Not established

ACGIH STEL/Ceiling Not provided

Section 4 : First Aid Measures

Eye Contact: Flush with clear water for at least 15 minutes. If irritation persists, seek medical attention.

Skin Contact: Remove contaminated clothing and wash skin thoroughly with soap and water.

Inhalation: Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove to fresh air and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen if available. If overexposure to oil mist, remove from further exposure until excessive oil mist condition subsides.

Ingestion: If ingested, do not induce vomiting. Call a physician immediately.

Section 5 : Fire Fighting Measures

Flash Point 177 °C (350 °F)

Flash Point Method COC

Auto-ignition Temperature Not established

National Fire Protection Association (NFPA) :

Health	Flammability	Reactivity
1	1	0

Upper Flammable or Explosive Limits : Not established

Lower Flammable or Explosive Limits : Not established

Extinguishing Media : Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for

extinguishing fires involving this type product, depending on size or potential size of fire and circumstances related to the situation. Water froth may be used to flush spills away from exposure.

Fire Fighting Procedures : Minimize breathing gases, vapor, fumes, and smoke, or decomposing products. Do not enter any enclosed or confined area without proper protective equipment and breathing apparatus.

Section 6 : Accidental Release Measures

Leak Response : Keep product out of sewers and watercourses by diking or impounding. Absorb with sand or inert material. Sweep or scoop up and remove. Prevent spread of spill. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with local regulations.

Disposal Methods : Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste site or facility. (Consult federal, state, or local authorities for proper disposal procedures.)

Section 7 : Handling and Storage

Handling : Keep containers closed when not in use. Do not handle near heat, sparks, flame, or strong oxidants.

Section 8 : Exposure Controls, Personal Protection

Ventilation : Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations or vapor in air. Use local exhaust to capture vapor, mist or fumes, if necessary. Workplace environment conditions vary widely. Therefore design criteria for ventilation cannot be specified in a MSDS.

Respiratory Protection : Use only NIOSH approved equipment. Normally not needed at ambient temperatures. Use supplied air respiratory protection in confined or enclosed spaces, if needed. Use filter, dust, fume, or vapor respirator type under misting conditions. Use can or cartridge, gas or vapor respirator type under conditions exceeding TWA standard.

OSHA PEL TWA: 5 mg/m^3

ACGIH TLV TWA: 5 mg/m^3

Protective Gloves : Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

Eye Protection : Use splash goggles or face shield when eye contact may occur due

to splashing or spraying of material.

Other Protective Equipment : Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

Personal Hygiene : There are no known hazards associated with this material when used as recommended. The following general hygiene considerations are recognized as common good industrial hygiene practices. Minimize breathing vapor, mist, or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners, followed by washing thoroughly with soap and water.

Section 9 : Physical and Chemical Properties

Physical State/Appearance : Amber liquid, petroleum odor

p/H : Not rated

Decomposition Temperature : Not available

Vapor Pressure : < .01 mmHg @ 20 °C

Vapor Density (Air = 1) : > 5

Boiling Range : Not available

Melting Point : Not applicable

Flash Point : 177 °C (350 °F)

Flash Point Method : COC

Solubility In Water : Nil

Evaporation Point (n-Butyl Acetate = 1) : Not available

VOC Content : 0.11 lb/gal

Viscosity : Unknown

Specific Gravity (25 °C/25 °C) (Water = 1) : < 1.0

Section 10 : Stability and Reactivity

Chemical Stability : Yes

Conditions To Avoid : Open flames

Incompatibilities with Other Materials : Strong oxidizers, concentrated oxygen, sodium or calcium hypochlorite for explosion hazard

Hazardous Polymerization : No

Hazardous Decomposition Products : (Under fire conditions) Smoke, fumes, carbon monoxide, and other decomposition products in case of incomplete combustion.

Section 11 : Toxicological Information

Oral (Acute) : Not established

Dermal (Acute) : Not established

Eye : Not established

Inhalation (Acute) : Not established

Chronic, Subchronic, Etc. : Not established

Medical Conditions Aggravated by Exposure : Not established

Toxicological Paragraph : This product does NOT contain any ingredients identified as carcinogenic by IARC, NTP, or OSHA

Section 12 : Ecological Information

Ecological Paragraph : Not established

Section 13 : Disposal Considerations

Waste Disposal : Consult federal, state, or local authorities for proper disposal procedures. Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste site or facility.

Section 14 : Transportation Information

Transportation Information : Not regulated by Department of Transportation (DOT)

Section 15 : Regulatory Information

Applies to all ingredients:

SARA :	This material is not known to contain any chemicals at a concentration of greater than 1.0 percent or carcinogenic chemicals at a concentration greater than .01 percent.
US Federal :	Not provided
State :	Not provided

Section 16 : Additional Information

Disclaimer :	The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse use beyond our control, seller makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.
Other Information :	Not available

Air, compressed

Safety Data Sheet P-4560

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 10/13/2016 Supersedes: 07/02/2015

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Air, compressed
Formula	:	Air: mixture of 19.5 to 23.5 percent oxygen, balance nitrogen; or air compressed from the atmosphere
Other means of identification	:	Air, Medipure Air, Plasma Air, Zero Air, Air - Diving Grade

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use Medical applications Diving Gas (Underwater Breathing)

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergency: 1-800-645-4633 CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification

Compressed gas H280

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS04

Signal word (GHS-US)	:	WARNING
Hazard statements (GHS-US)	:	H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED CGA-HG24 - MAY SUPPORT COMBUSTION
Precautionary statements (GHS-US)	:	P202 - Do not handle until all safety precautions have been read and understood CGA-PG05 - Use a back flow preventive device in the piping CGA-PG20+CGA-PG10 - Use only with equipment of compatible materials of construction and rated for cylinder pressure CGA-PG06 - Close valve after each use and when empty CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Name : Air, compressed

Name	Product identifier	%
Air	(CAS No) 132259-10-0	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Adverse effects not expected from this product.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Adverse effects not expected from this product. In case of eye irritation: Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems

Stop flow of product if safe to do so

Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

Safe use of the product : **The suitability of this product as a component in underwater breathing gas mixtures** is to be determined by or under the supervision of personnel experienced in the use of underwater breathing gas mixtures and familiar with the physiological effects, methods employed, frequency and duration of use, hazards, side effects, and precautions to be taken.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Eye protection : Wear safety glasses with side shields.

Skin and body protection : Wear work gloves and metatarsal shoes for cylinder handling. Protective equipment where needed. Select in accordance with OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Colorless gas.
Molecular mass	:	28.975 g/mol
Color	:	Colorless
Odor	:	Odorless.
Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	No data available
Freezing point	:	-216.2 °C
Boiling point	:	-194.3 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable.
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.2 kg/m³
Relative gas density	:	1
Solubility	:	Water: 0.0292 %
Log Pow	:	Not applicable.
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Air, compressed	
Persistence and degradability	No ecological damage caused by this product.

Air (132259-10-0)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Air, compressed	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

Air (132259-10-0)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Air, compressed	
Mobility in soil	No data available.

Air (132259-10-0)	
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on ozone layer : None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1002 Air, compressed, 2.2

UN-No.(DOT) : UN1002

Proper Shipping Name (DOT) : Air, compressed

Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas

DOT Special Provisions (49 CFR 172.102) : 78 - This entry may not be used to describe compressed air which contains more than 23.5 percent oxygen. An oxidizer label is not required for any oxygen concentration of 23.5 percent or less

Additional information

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1002

Proper Shipping Name (IMDG) : AIR, COMPRESSED

Class (IMDG) : 2 - Gases

Air transport

UN-No. (IATA) : 1002

Proper Shipping Name (IATA) : Air, compressed

Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Air, compressed	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Air (132259-10-0)

EU-Regulations

15.2.2. National regulations

No additional information available

15.3. US State regulations

Air, compressed()	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Air (132259-10-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

SECTION 16: Other information

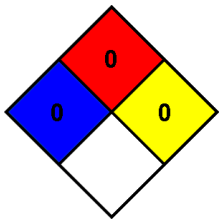
Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc, P.O. Box 44, Tonawanda, NY 14151-0044)

NFPA health hazard	: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard	: 0 - Materials that will not burn.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	: 0 Minimal Hazard - No significant risk to health
Flammability	: 0 Minimal Hazard
Physical	: 3 Serious Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Air, compressed

Safety Data Sheet P-4560

according to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 07/02/2015 Supersedes: 06/24/2015

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Air, compressed
Formula	:	Air: mixture of 19.5 to 23.5 percent oxygen, balance nitrogen; or air compressed from the atmosphere
Other means of identification	:	Air, Medipure Air, Plasma Air, Zero Air, Air - Diving Grade

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use Medical applications. Diving Gas (Underwater Breathing)

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergency: 1-800-645-4633 CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Compressed gas H280

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS04

Signal word (GHS-US) : WARNING

Hazard statements (GHS-US) : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
CGA-HG24 - MAY SUPPORT COMBUSTION.

Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood
CGA-PG05 - Use a back flow preventive device in the piping.
CGA-PG20+CGA-PG10 - Use only with equipment of compatible materials of construction and rated for cylinder pressure.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Air, compressed

Name	Product identifier	%
Air	(CAS No) 132259-10-0	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Adverse effects not expected from this product.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Adverse effects not expected from this product. In case of eye irritation: Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.

Stop flow of product if safe to do so.

Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

Safe use of the product : **The suitability of this product as a component in underwater breathing gas mixtures** is to be determined by or under the supervision of personnel experienced in the use of underwater breathing gas mixtures and familiar with the physiological effects, methods employed, frequency and duration of use, hazards, side effects, and precautions to be taken.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Eye protection : Wear safety glasses with side shields.

Skin and body protection : Wear work gloves and metatarsal shoes for cylinder handling. Protective equipment where needed. Select in accordance with OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Colorless gas.
Molecular mass	:	28.975 g/mol
Color	:	Colorless
Odor	:	Odorless.
Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	No data available
Freezing point	:	-216.2 °C
Boiling point	:	-194.3 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable.
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.2 kg/m³
Relative gas density	:	1
Solubility	:	Water: 0.0292 %
Log Pow	:	Not applicable.
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Air, compressed	
Persistence and degradability	No ecological damage caused by this product.

Air (132259-10-0)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Air, compressed	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

Air (132259-10-0)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Air, compressed	
Mobility in soil	No data available.

Air (132259-10-0)	
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on ozone layer : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1002 Air, compressed, 2.2

UN-No.(DOT) : UN1002

Proper Shipping Name (DOT) : Air, compressed

Transport hazard class(es) (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas

DOT Special Provisions (49 CFR 172.102) : 78 - This entry may not be used to describe compressed air which contains more than 23.5 percent oxygen. An oxidizer label is not required for any oxygen concentration of 23.5 percent or less.

Additional information

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1002

Proper Shipping Name (IMDG) : AIR, COMPRESSED

Class (IMDG) : 2 - Gases

Air transport

UN-No. (IATA) : 1002

Proper Shipping Name (IATA) : Air, compressed

Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Air, compressed		
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard	
	All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:	
Air	CAS No 132259-10-0	100

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Air (132259-10-0)

EU-Regulations

15.2.2. National regulations

No additional information available

15.3. US State regulations

Air, compressed()	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Air (132259-10-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

SECTION 16: Other information

Revision date : 7/2/2015 12:00:00 AM

Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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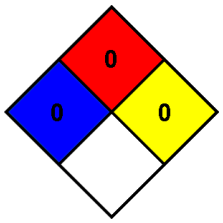
NFPA health hazard	: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard	: 0 - Materials that will not burn.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	: 0 Minimal Hazard - No significant risk to health
Flammability	: 0 Minimal Hazard
Physical	: 3 Serious Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

MATERIAL SAFETY DATA SHEET FOR ALCOHOL PREP PADS & SWAB STICKS

PDI - PROFESSIONAL DISPOSABLES INTERNATIONAL
HEALTHCARE DIVISION OF
NICE-PAK PRODUCTS, INC
TWO NICE-PAK PARK
ORANGEBURG NY 10962-1376
845-365-1700

REVISION DATE: 11/00

I-PRODUCT IDENTIFICATION

PRODUCT/TRADE NAME: ALCOHOL PREP/SWAB - B05507, B15901, B0550X, B33901, B33905, B33973, B60301, B60307, C29600, C69900, S84925, S81650, B0550SEX, B24189, B3390V, B33902, B33907, B33966, B60305, B60389, C29695, S84925, S84970

HAZARD RATING(NFPA)
HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
SPECIFIC: NONE
EMERGENCY OR INFORMATION TELEPHONE NO: 845-365-1700 (M-F DAYTIME) AT OTHER TIMES, CONTACT THE LOCAL POISON CONTROL CENTER

CHEMICAL NAME: ISOPROPYL ALCOHOL

II HAZARDOUS INGREDIENTS PER 29 CFR 1910.1200

Hazardous Ingredients	%	ACGIH TLV	CAS NUMBER
2-PROPANOL	70	400 ppm	67-63-0

III-PHYSICAL/CHEMICAL CHARACTERISTICS

COLOR/ODOR/APPEARANCE: TOWELETTE/PAD/SWAB SATURATED WITH CLEAR LIQUID WITH ALCOHOL ODOR
BOILING POINT: N/A
FLASH POINT: 78°F
VAPOR DENSITY: N/A
EVAPORATION RATE: N/A
SOLUBILITY IN WATER: COMPLETE
SPECIFIC GRAVITY (H_2O = 1):N/A

IV-FIRE & EXPLOSION HAZARD DATA

FLASH POINT(Method Used): 78°F TAG CLOSED CUP :LEL:2.0 UEL:12.0
EXTINGUISHING MEDIA: DRY CHEMICAL OR ALCOHOL TYPE FOAM, CARBON DIOXIDE
SPECIAL FIRE FIGHTING PROCEDURES: HANDLE AS FLAMMABLE LIQUID. USE RESPIRATORY PROTECTION FOR FIRE FIGHTING PERSONNEL
UNUSUAL FIRE AND EXPLOSION HAZARDS: CLASS 3 FLAMMABILITY

V-REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID NONE
INCOMPATIBILITY: NONE
HAZARDOUS DECOMPOSITION OF BYPRODUCT NONE
POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: NONE

VI-HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE:
SKIN: IF RASH APPEARS, DISCONTINUE USE
EYES: WILL CAUSE EYE STING IF SPLASHED
INHALATION: NONE
INGESTION NOT A NORMAL ROUTE OF ENTRY
EMERGENCY AND FIRST AID PROCEDURES:
SKIN CONTACT: DISCONTINUE USE IF RASH OR IRRITATION OCCURS
EYE CONTACT: FLUSH WITH COLD WATER FOR 15 MINUTES
INHALATION: REMOVE TO FRESH AIR
INGESTION: INDUCE VOMITING. CALL PHYSICIAN
TARGET ORGANS: N/A

VII-SPILL AND DISPOSAL PROCEDURE

SPILL CONTROL: ELIMINATE ALL SOURCES OF IGNITION
WASTE DISPOSAL METHOD: FLUSH SPILLS WITH WATER. HANDLE AS FLAMMABLE LIQUID. FOLLOW LOCAL, STATE AND FEDERAL REGULATIONS.
HANDLING AND STORAGE: STORE AWAY FROM HEAT AND SOURCES OF IGNITION

VIII-CONTROL MEASURES/PROTECTION

RESPIRATION: USE IF PERMISSABLE EXPOSURE LEVEL IS EXCEEDED WHEN HANDLING BULK LIQUID
VENTILATION: RECOMMENDED
PROTECTIVE GLOVES: NONE REQUIRED
EYE PROTECTION: ONLY IF SPLASHING IS EXPECTED

HYGIENIC PRACTICES: GOOD HOUSEKEEPING PRACTICES SHOULD BE FOLLOWED.
OTHER: DON'T ALLOW LARGE QUANTITIES OF WASTE TO ACCUMULATE

IX-TRANSPORT/SHIPPING
DOT SHIPPING NAME: CONSUMER COMMODITY
TECHNICAL SHIPPING NAME: N/A
DOT SHIPPING CLASSIFICATION: "ORM-D"
DOT ID NO.: N/A
DOT LABEL REQUIREMENTS: N/A
UN/NA NUMBER REGULATIONS: N/A
REPORTABLE QUANTITY: N/A

X-DISCLAIMER
THE INFORMATION FURNISHED HEREIN IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST DATA CURRENTLY AVAILABLE TO US. NO WARRANTY, EXPRESSED OR IMPLIED IS MADE AND NICE-PAK PRODUCTS, INC. ASSUMES NO LEGAL RESPONSIBILITY OR LIABILITY RESULTING FROM ITS USE.

Professional Disposables International
Two Nice-Pak Park, Orangeburg, NY 10962
845-365-1700 / Email: info@pdipdi.com
Canada 800-263-7067 / Europe 441-352-763-511

Safety Data Sheet

24 Hour Emergency Phone Numbers
Medical/Poison Control:
In U.S.: Call 1-800-222-1222

Outside U.S.: Call your local poison control center

Transportation/National Response Center:

1-800-535-5053
1-352-323-3500

NOTE: The National ResponseCenter emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

1. Identification

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name:	Alex Painters Acrylic Latex Caulk	**Revision Date:**	6/19/2015
Product UPC Number:	18065	**Supercedes Date:**	4/20/2014
Product Use/Class:	Caulking Compound	**SDS No:**	00010011001
Manufacturer:	DAP Products Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non - emergency matters)		
Preparer:	Regulatory Department		

2. Hazards Identification

EMERGENCY OVERVIEW: Under normal use conditions, this product is not expected to cause adverse health effects.

GHS Classification
Not a hazardous substance or mixture.

Symbol(s) of Product

None

Signal Word
Not a hazardous substance or mixture.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Limestone	1317-65-3	50-75	GHS03	H270
Petroleum distillates	64741-88-4	2.5-10	GHS03-GHS06	H270-331
Diethylene glycol dibenzoate	120-55-8	1.0-2.5	GHS03-GHS07	H270-312

Solvent ref. light paraffinic	64741-89-5	1.0-2.5	GHS03-GHS06	H270-331
Quartz	14808-60-7	0.1-1.0	GHS03-GHS07	H270-302
Titanium dioxide	13463-67-7	0.1-1.0	No Information	No Information

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. First-aid Measures

FIRST AID - INHALATION: Material is not likely to present an inhalation hazard at ambient conditions. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

FIRST AID - SKIN CONTACT: No health hazards are known to exist. In case of contact, wash skin immediately with soap and water.

FIRST AID - EYE CONTACT: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

FIRST AID - INGESTION: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

5. Fire-fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

6. Accidental Release Measures

ENVIRONMENTAL MEASURES: No Information

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers. Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

7. Handling and Storage

HANDLING: KEEP OUT OF REACH OF CHILDREN!DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Wash thoroughly after handling.

STORAGE: Avoid excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Limestone	N.E.	N.E.	15 mg/m3 TWA total dust, 5 mg/m3 TWA respirable fraction	N.E.
Petroleum distillates	N.E.	N.E.	N.E.	N.E.
Diethylene glycol dibenzoate	N.E.	N.E.	N.E.	N.E.
Solvent ref. light paraffinic	N.E.	N.E.	N.E.	N.E.
Quartz	0.025 mg/m3 TWA respirable fraction	N.E.	N.E.	N.E.
Titanium dioxide	10 mg/m3 TWA	N.E.	15 mg/m3 TWA total dust	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required. National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m3) as determined by a full shift sample up to 10-hour work shift.

SKIN PROTECTION: Rubber gloves.

EYE PROTECTION: Goggles or safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT: Not required under normal use.

HYGIENIC PRACTICES: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:	White to Off-White	**Physical State:**	Paste
Odor:	Very Slight Ammonia	**Odor Threshold:**	Not Established
Density, g/cm3:	1.51 - 1.61	**pH:**	Between 7.0 and 12.0
Freeze Point, °C:	Not Established	**Viscosity (mPa.s):**	Not Established
Solubility in Water:	Not Established	**Partition Coeff., n-octanol/water:**	Not Established
Decomposition Temperature, °C:	Not Established	**Explosive Limits, %:**	N.I. - N.I.
Boiling Range, °C:	N.I. - N.I.	**Auto-Ignition Temperature, °C**	Not Established
Minimum Flash Point, °C:	93.3	**Vapor Pressure, mmHg:**	No Information
Evaporation Rate:	Slower Than n-Butyl Acetate	**Flash Method:**	Seta Closed Cup
Vapor Density:	Heavier Than Air		
Combustibility:	Does not support combustion		

(See "Other information" Section for abbreviation legend)
(If product is an aerosol, the flash point stated above is that of the propellant.)

10. Stability and Reactivity

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Excessive heat and freezing.

INCOMPATIBILITY: Incompatible with strong bases and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal decomposition products, i.e., COx, NOx.

11. Toxicological Information

EFFECT OF OVEREXPOSURE - INHALATION: Under normal use conditions, this product is not expected to cause adverse health effects. Inhalation of vapors in high concentration may cause mild irritation of respiratory system (nose, mouth, mucous membranes).

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Under normal use conditions, this product is not expected to cause adverse

health effects. Prolonged or repeated contact with skin may cause mild irritation.

EFFECT OF OVEREXPOSURE - EYE CONTACT: Under normal use conditions, this product is not expected to cause adverse health effects. Direct eye contact may cause irritation.

EFFECT OF OVEREXPOSURE - INGESTION: Under normal use conditions, this product is not expected to cause adverse health effects. Single dose oral toxicity is very low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may cause injury.

CARCINOGENICITY: No Information

PRIMARY ROUTE(S) OF ENTRY: Inhalation, Skin Contact

Acute Toxicity Values
The acute effects of this product have not been tested. Data on individual components are tabulated below

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1317-65-3	Limestone	6450 mg/kg Rat	>2000 mg/kg	>20 mg/L
64741-88-4	Petroleum distillates	>5000 mg/kg Rat	>2000 mg/kg Rabbit	2.18 mg/L Rat
120-55-8	Diethylene glycol dibenzoate	2830 mg/kg Rat	2000 mg/kg Rabbit	> 200 mg/L Rat
64741-89-5	Solvent ref. light paraffinic	>5000 mg/kg Rat	>5000 mg/kg Rabbit	2.18 mg/L Rat
14808-60-7	Quartz	500 mg/kg Rat	>2000 mg/kg	>20 mg/L
13463-67-7	Titanium dioxide	>10000 mg/kg Rat	>5000 mg/kg Rabbit	>20 mg/L

N.I. = No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Ecological injuries are not known or expected under normal use.

13. Disposal Information

DISPOSAL INFORMATION: This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

14. Transport Information

SPECIAL TRANSPORT PRECAUTIONS: No Information

DOT UN/NA Number: N.A.
DOT Proper Shipping Name: Not Regulated.
DOT Technical Name: N.A.
DOT Hazard Class: N.A.
Hazard SubClass: N.A.
Packing Group: N.A.

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

CALIFORNIA PROPOSITION 65 CARCINOGENS

WARNING: This product contains chemicals known to the State of California to cause cancer.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

This product does not contain any chemicals known to the State of California to cause birth defects or other reproductive harm.

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class Consumer Commodity

16. Other Information

Revision Date: 6/19/2015 **Supersedes Date:** 4/20/2014

Reason for revision: HazCom2012/GHS Conversion

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	1	**Flammability:**	0	**Reactivity:**	0	**Personal Protection:**	X

VOC Less Water Less Exempt Solvent, g/L58.4

VOC Material, g/L:37

VOC as Defined by California Consumer Product Regulation, Wt/Wt%:1.0

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H270	May cause or intensify fire; oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS03

GHS06

GHS07

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since thisdocument is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

32-79

PRODUCT NAME: Alkyd Anti-Corrosive Metal Primer Yellow, MPI #79
PRODUCT CODE: 32-79 (see ADDENDUM)

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: BENNETTE PAINT MANUFACTURING COMPANY INC.
ADDRESS: 401 Industry Drive, Hampton, Virginia 23661
EMERGENCY PHONE: 757-838-7777
DATE PREPARED: 01-09-2007
INFORMATION PHONE: 757-838-7777
NAME OF PREPARER: Bennette Paint Mfg. Co., Inc.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS	CAS NUMBER	OCCUPATIONAL EXPOSURE LIMITS OSHA PEL	ACGIH TLV	OTHER	VAPOR PRESSURE mm Hg	@ TEMP	WEIGHT PERCENT
MINERAL SPIRITS	8052-41-3	100 ppm	NR	NR	10.0	77° F	32.51
IRON OXIDE	1309-37-1	NR	10 mg/m	NR		N/A	4.47
TALC	14807-96-6	20 mppcf	NR	NR		N/A	
ZINC HYDROXYPHOSPHITE ***	64539-51-1	NR	NR	NR		N/A	<15%

***This chemical is subject to the reporting requirement of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 316-383 deg F
VAPOR DENSITY: HEAVIER THAN AIR
APPEARANCE AND ODOR: Viscous liquid. Mild odor.
V.O.C.: 2.70 LB/GL (321 GR/LT)
SOLUBILITY IN WATER: Insoluble
SPECIFIC GRAVITY (H20=1): 1.3
EVAPORATION RATE: Slower Than Ether
WEIGHT PER GALLON: 11.09

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 105 deg F **METHOD USED**: TCC **FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER**: 0.9% **UPPER**: 7.0%

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, WATER FOG

SPECIAL FIREFIGHTING PROCEDURES Use air-supplied rescue equipment for enclosed areas. Cool exposed containers with water spray. Avoid breathing vapor or fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS Keep away from heat, sparks, and open flames. Fight as volatile liquid fire. Use water to keep fire-exposed containers cool to reduce pressure.

SECTION V - REACTIVITY DATA

STABILITY: STABLE
CONDITIONS TO AVOID: Extreme heat or humidity. Any source of ignition.
INCOMPATIBILITY (MATERIALS TO AVOID) Avoid contact with strong oxidizing agents.
HAZARDOUS DECOMPOSITION OR BYPRODUCTS Usual products of combustion-CO, CO2, and possible acrolein.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR None

SECTION VI - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE Temporary dizziness, headache, possible nausea; symptoms disappear when exposure ceases.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE Eye or skin contact may cause discomfort by defatting action of solvent. Repeated contact to skin may cause dermatitis.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE See above.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE Do not ingest.

HEALTH HAZARDS (ACUTE AND CHRONIC) Inhalation: Temporary dizziness, headache, possible nausea; symptoms disappear when exposure ceases. Eye or skin contact may cause discomfort by defatting action of solvent. Repeated contact to skin may cause dermatitis.

CARCINOGENICITY: N/A **NTP?** No **IARC MONOGRAPHS?** No **OSHA REGULATED?** No

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE Any existing respiratory or cardiovascular ailment.

EMERGENCY AND FIRST AID PROCEDURES If overcome by vapor, remove from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation, administer oxygen. If ingested, DO NOT induce vomiting; call a physician. In case of skin conta ct, remove contaminated clothing, and wash skin thoroughly. If splashed into eyes, flush eyes with clean water for 15 minutes or until irritation subsides. If irritation persists- seek medical attention.

========== **SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE** ==========

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED FOR SPILLED Remove sources of ignition and provide ventilation. Large spills may be scooped up with non-sparking tools. Provide respiratory protection if required. Small quantities may be picked up with absorbe nt material

WASTE DISPOSAL METHOD In accordance with local, state, and federal regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store away from heat, sparks, and open flame. Avoid prolonged skin contact. DO NOT breathe spray mist. Combustible liquid, class II.

OTHER PRECAUTIONS Ground containers when pouring and limit free fall to a few inches to prevent static sparks. Avoid spontaneous combustion of contaminated rags and other easily ignitable organic accumulations by immediate immersion in water. Emptied conta iners may retain hazardous properties. DO NOT cut, puncture, or weld on or near containers. Keep away from children.

========== **SECTION VIII - CONTROL MEASURES** ==========

RESPIRATORY PROTECTION Approved mask or respirator for organic vapors.

VENTILATION Ventilation should be designed and maintained to provide volume and pattern sufficient to prevent vapor concentration in excess of TLV or LEL.

PROTECTIVE GLOVES Neoprene rubber gloves.

EYE PROTECTION Goggles or side shield spectacles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT Eye wash station and safety showers should be available.

WORK/HYGIENIC PRACTICES Wash hands after use and before eating or using washroom.

========== **SECTION IX - DISCLAIMER** ==========

Bennette Paint Mfg. believes that the information contained in this MSDS is correct as of this date. However, because the mater ial may be used under conditions over which Bennette Paint Mfg. has no control or in ways we can not anticipate, we give no warranty, expressed, or im plied, as to the accuracy of the information and assume no responsibility for any damages.

========== **ADDENDUM** ==========

ADDENDUM DATE OF PREPARATION 01-09-2007

PRODUCT NUMBERS 3207900

PRODUCT NAME Alkyd Anti-Corrosive Metal Primer

MATERIAL SAFETY DATA SHEET

801RF0003
13 00

DATE OF PREPARATION
Apr 7, 2015

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
801RF0003

PRODUCT NAME
Alkyd Enamel, Red

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 524-5979 www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
3	64742-88-7	**Med. Aliphatic Hydrocarbon Solvent**		
		ACGIH TLV	100 PPM	1.27 mm
		OSHA PEL	100 PPM	
2	100-41-4	**Ethylbenzene**		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
13	1330-20-7	**Xylene**		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
2	64742-95-6	**Light Aromatic Hydrocarbons**		
		ACGIH TLV	Not Available	3.8 mm
		OSHA PEL	Not Available	
4	95-63-6	**1,2,4-Trimethylbenzene**		
		ACGIH TLV	25 PPM	2.03 mm
		OSHA PEL	25 PPM	
2	64742-94-5	**Medium Aromatic Hydrocarbons**		
		ACGIH TLV	Not Available	0.12 mm
		OSHA PEL	Not Available	
0.3	91-20-3	**Naphthalene**		
		ACGIH TLV	10 PPM	1 mm
		ACGIH TLV	15 PPM STEL	
		OSHA PEL	10 PPM	
		OSHA PEL	15 PPM STEL	
6	107-87-9	**Methyl n-Propyl Ketone**		
		ACGIH TLV	150 PPM STEL	27.8 mm
		OSHA PEL	200 PPM	
		OSHA PEL	250 PPM STEL	
1	108-65-6	**1-Methoxy-2-Propanol Acetate**		
		ACGIH TLV	Not Available	1.8 mm
		OSHA PEL	Not Available	
0.4	13463-67-7	**Titanium Dioxide**		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
98 °F PMCC	0.7	13.1	RED LABEL -- Flammable, Flash below 100 °F (38 °C)

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
DOL Storage Class IC
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.
OTHER PRECAUTIONS
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	9.51 lb/gal	1139 g/l
SPECIFIC GRAVITY	1.14	
BOILING POINT	217 - 415 °F	102 - 212 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	46%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

3.32 lb/gal	398 g/l	Less Water and Federally Exempt Solvents
3.32 lb/gal	398 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Naphthalene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-88-7	**Med. Aliphatic Hydrocarbon Solvent**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
100-41-4	**Ethylbenzene**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		3500 mg/kg
1330-20-7	**Xylene**			
		LC50 RAT	4HR	5000 ppm
		LD50 RAT		4300 mg/kg
64742-95-6	**Light Aromatic Hydrocarbons**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
95-63-6	**1,2,4-Trimethylbenzene**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64742-94-5	**Medium Aromatic Hydrocarbons**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
91-20-3	**Naphthalene**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
107-87-9	**Methyl n-Propyl Ketone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		1600 mg/kg
108-65-6	**1-Methoxy-2-Propanol Acetate**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		8500 mg/kg
13463-67-7	**Titanium Dioxide**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY. (PAINT OR RELATED).
Larger Containers are Regulated as:
UN1263, PAINT, 3, PG III, (ERG#128)

DOT (Dept of Transportation) Hazardous Substances & Reportable Quantities

Xylenes (isomers and mixture) 100 lb RQ

Bulk Containers may be Shipped as (check reportable quantities):

RQ, UN1263, PAINT, 3, PG III, (XYLENES (ISOMERS AND MIXTURE)),
(ERG#128)

Canada (TDG)

UN1263, PAINT, CLASS 3, PG III, LIMITED QUANTITY, (ERG#128)

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, CLASS 3, PG III, (37 C c.c.), EmS F-E, S-E

IMO

5 Liters (1.3 Gallons) and Less may be Shipped as Limited Quantity.
UN1263, PAINT, CLASS 3, PG III, (37 C c.c.), EmS F-E, S-E

IATA/ICAO

UN1263, PAINT, 3, PG III

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	13	
95-63-6	1,2,4-Trimethylbenzene	4	
91-20-3	Naphthalene	0.2	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Aluminum Alloys

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 12/15/2014 Date of issue: 10/28/2014 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Aluminum Alloys

Synonyms: Al

1.2. Intended Use of the Product

Use of the Substance/Mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Distributor

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5713

1.4. Emergency Telephone Number

Emergency Number : 248-233-5713

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

2.2. Label Elements

GHS-US Labeling No labeling applicable

2.3. Other Hazards

This product is present in a massive form as an alloy. It does not present the same hazards when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions.

Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Aluminum	(CAS No) 7429-90-5	80 - 99.7	Comb. Dust Flam. Sol. 1, H228 Water-react. 2, H261
Silicon	(CAS No) 7440-21-3	10 - 20	Comb. Dust
Copper	(CAS No) 7440-50-8	1 - 5, 5 - 10, 10 - 20	Comb. Dust Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Cobalt	(CAS No) 7440-48-4	0.1 - 1, 1 - 5, 5 -10	Acute Tox. 4 (Oral), H302 Acute Tox. 1 (Inhalation:dust,mist), H330 Eye Irrit. 2A, H319

			Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 3, H402 Aquatic Chronic 1, H410
Zinc oxide	(CAS No) 1314-13-2	1 - 5, 5 -10	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tin	(CAS No) 7440-31-5	1 - 5, 5 -10	Comb. Dust
Manganese	(CAS No) 7439-96-5	1 - 5, 5 -10	Comb. Dust
Lead	(CAS No) 7439-92-1	1 - 5, 5 -10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 1B, H350 Repr. 1A, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Nickel	(CAS No) 7440-02-0	< 0.1, 0.1 - 1, 1 - 2.4	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Silver	(CAS No) 7440-22-4	0.1 - 1	Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye Contact: Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Welding, cutting, or processing this material may release dust or fumes that are hazardous.

Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Manganese : Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon : Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension. Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Otherwise, zinc is non-toxic. Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis. Silver: Chronic skin contact or ingestion of silver dust, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Dry sand; Class D Extinguishing Agent (for metal powder fires).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire. Do not use water when molten material is involved, may react violently or explosively on contact with water.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: A non-combustible material, not considered flammable but will melt above 1215 °F (657.2 °C).

Explosion Hazard: In molten state: reacts violently with water (moisture).

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Oxides of tin. Oxides of nickel. Oxides of copper. Oxides of silicone and carbon. Oxides of lead. Oxides of aluminum. Oxides of silver.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product. Avoid all eye and skin contact and do not breathe dust, fumes, and vapors.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May generate flammable/explosive dusts or turnings when brushed, machined or ground. Use care during processing to minimize generation of dust. Where excessive dust may result, use approved respiratory protection equipment. Heating of product can release toxic or irritating fumes; ensure proper ventilation is employed, proper precautions are enforced, and applicable regulations are followed. Inhalation of fumes may cause metal fume fever.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Aluminum (7429-90-5)		
Mexico	OEL TWA (mg/m³)	10 mg/m³ (dust)
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (respirable fraction)
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	10 mg/m³ (dust)
British Columbia	OEL TWA (mg/m³)	1.0 mg/m³ (respirable)
Manitoba	OEL TWA (mg/m³)	1 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (metal dust)
Newfoundland & Labrador	OEL TWA (mg/m³)	1 mg/m³ (respirable fraction)
Nova Scotia	OEL TWA (mg/m³)	1 mg/m³ (respirable fraction)
Nunavut	OEL STEL (mg/m³)	20 mg/m³
Nunavut	OEL TWA (mg/m³)	10 mg/m³
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³
Ontario	OEL TWA (mg/m³)	1 mg/m³ (respirable)
Prince Edward Island	OEL TWA (mg/m³)	1 mg/m³ (respirable fraction)
Québec	VEMP (mg/m³)	10 mg/m³
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³ (dust)
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³ (dust)

Silicon (7440-21-3)		
Mexico	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Mexico	OEL STEL (mg/m³)	20 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)

British Columbia	OEL TWA (mg/m³)	10 mg/m³ (total dust)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³
Nunavut	OEL TWA (mg/m³)	5 mg/m³ (respirable mass)
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³ (respirable mass)
Ontario	OEL TWA (mg/m³)	10 mg/m³ (total dust)
Québec	VEMP (mg/m³)	10 mg/m³ (containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³
Yukon	OEL STEL (mg/m³)	20 mg/m³
Yukon	OEL TWA (mg/m³)	30 mppcf

Copper (7440-50-8)		
Mexico	OEL TWA (mg/m³)	0.2 mg/m³ (fume) 1 mg/m³ (dust and mist)
Mexico	OEL STEL (mg/m³)	2 mg/m³ (fume) 2 mg/m³ (dust and mist)
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³ (fume)
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (fume) 1 mg/m³ (dust and mist)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³ (dust and mist) 0.1 mg/m³ (fume)
USA IDLH	US IDLH (mg/m³)	100 mg/m³ (dust, fume and mist)
Alberta	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
British Columbia	OEL TWA (mg/m³)	1 mg/m³ (dust and mist)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
New Brunswick	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Nunavut	OEL STEL (mg/m³)	0.6 mg/m³ (fume)
Nunavut	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Northwest Territories	OEL STEL (mg/m³)	0.6 mg/m³ (fume)
Northwest Territories	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Ontario	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Québec	VEMP (mg/m³)	0.2 mg/m³ (fume)
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³ (fume)
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³ (fume)
Yukon	OEL STEL (mg/m³)	0.2 mg/m³ (fume)
Yukon	OEL TWA (mg/m³)	0.2 mg/m³ (fume)

Cobalt (7440-48-4)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
USA ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (dust and fume)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ (dust and fume)
USA IDLH	US IDLH (mg/m³)	20 mg/m³ (dust and fume)
Alberta	OEL TWA (mg/m³)	0.02 mg/m³
British Columbia	OEL TWA (mg/m³)	0.02 mg/m³
Manitoba	OEL TWA (mg/m³)	0.02 mg/m³
New Brunswick	OEL TWA (mg/m³)	0.02 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.02 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.02 mg/m³

Nunavut	OEL STEL (mg/m³)	0.3 mg/m³ (dust and fume)
Nunavut	OEL TWA (mg/m³)	0.1 mg/m³ (metal-dust and fume)
Northwest Territories	OEL STEL (mg/m³)	0.3 mg/m³ (dust and fume)
Northwest Territories	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
Ontario	OEL TWA (mg/m³)	0.02 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.02 mg/m³
Québec	VEMP (mg/m³)	0.02 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.06 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.02 mg/m³
Yukon	OEL STEL (mg/m³)	0.15 mg/m³ (dust and fume)
Yukon	OEL TWA (mg/m³)	0.05 mg/m³ (dust and fume)

Zinc oxide (1314-13-2)		
Mexico	OEL TWA (mg/m³)	5 mg/m³ (fume) 10 mg/m³ (dust)
Mexico	OEL STEL (mg/m³)	10 mg/m³ (fume)
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (respirable fraction)
USA ACGIH	ACGIH STEL (mg/m³)	10 mg/m³ (respirable fraction)
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³ (fume) 15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³ (dust and fume)
USA NIOSH	NIOSH REL (STEL) (mg/m³)	10 mg/m³ (fume)
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	15 mg/m³ (dust)
USA IDLH	US IDLH (mg/m³)	500 mg/m³
Alberta	OEL STEL (mg/m³)	10 mg/m³ (respirable)
Alberta	OEL TWA (mg/m³)	2 mg/m³ (respirable)
British Columbia	OEL STEL (mg/m³)	10 mg/m³ (respirable)
British Columbia	OEL TWA (mg/m³)	2 mg/m³ (respirable)
Manitoba	OEL STEL (mg/m³)	10 mg/m³ (respirable fraction)
Manitoba	OEL TWA (mg/m³)	2 mg/m³ (respirable fraction)
New Brunswick	OEL STEL (mg/m³)	10 mg/m³ (fume)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (particulate matter containing no Asbestos and <1% Crystalline silica, dust)
Newfoundland & Labrador	OEL STEL (mg/m³)	10 mg/m³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m³)	2 mg/m³ (respirable fraction)
Nova Scotia	OEL STEL (mg/m³)	10 mg/m³ (respirable fraction)
Nova Scotia	OEL TWA (mg/m³)	2 mg/m³ (respirable fraction)
Nunavut	OEL STEL (mg/m³)	10 mg/m³ (fume)
Nunavut	OEL TWA (mg/m³)	5 mg/m³ (fume)
Northwest Territories	OEL STEL (mg/m³)	10 mg/m³ (fume)
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³ (fume)
Ontario	OEL STEL (mg/m³)	10 mg/m³ (respirable)
Ontario	OEL TWA (mg/m³)	2 mg/m³ (respirable)
Prince Edward Island	OEL STEL (mg/m³)	10 mg/m³ (respirable fraction)
Prince Edward Island	OEL TWA (mg/m³)	2 mg/m³ (respirable fraction)
Québec	VECD (mg/m³)	10 mg/m³ (fume)
Québec	VEMP (mg/m³)	10 mg/m³ (containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m³)	10 mg/m³ (dust and fume, respirable fraction)
Saskatchewan	OEL TWA (mg/m³)	2 mg/m³ (dust and fume, respirable fraction)
Yukon	OEL STEL (mg/m³)	10 mg/m³ (fume)

Yukon	OEL TWA (mg/m³)	5 mg/m³ (fume)

Tin (7440-31-5)		
Mexico	OEL TWA (mg/m³)	2 mg/m³
Mexico	OEL STEL (mg/m³)	4 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	2 mg/m³
USA IDLH	US IDLH (mg/m³)	100 mg/m³
Alberta	OEL TWA (mg/m³)	2 mg/m³
British Columbia	OEL TWA (mg/m³)	2 mg/m³
Manitoba	OEL TWA (mg/m³)	2 mg/m³
New Brunswick	OEL TWA (mg/m³)	2 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	2 mg/m³
Ontario	OEL TWA (mg/m³)	2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	2 mg/m³
Québec	VEMP (mg/m³)	2 mg/m³
Saskatchewan	OEL STEL (mg/m³)	4 mg/m³
Saskatchewan	OEL TWA (mg/m³)	2 mg/m³

Manganese (7439-96-5)		
Mexico	OEL TWA (mg/m³)	0.2 mg/m³ 1 mg/m³ (fume)
Mexico	OEL STEL (mg/m³)	3 mg/m³ (fume)
USA ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³ (respirable fraction) 0.1 mg/m³ (inhalable fraction)
USA OSHA	OSHA PEL (Ceiling) (mg/m³)	5 mg/m³ (fume)
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³ (fume)
USA NIOSH	NIOSH REL (STEL) (mg/m³)	3 mg/m³
USA IDLH	US IDLH (mg/m³)	500 mg/m³
Alberta	OEL TWA (mg/m³)	0.2 mg/m³
British Columbia	OEL TWA (mg/m³)	0.2 mg/m³
Manitoba	OEL TWA (mg/m³)	0.02 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	0.2 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.02 mg/m³ (respirable fraction)
Nova Scotia	OEL TWA (mg/m³)	0.02 mg/m³ (respirable fraction)
Nunavut	OEL Ceiling (mg/m³)	5 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³ (fume)
Nunavut	OEL TWA (mg/m³)	1 mg/m³ (fume)
Northwest Territories	OEL Ceiling (mg/m³)	5 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³ (fume)
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³ (fume)
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.02 mg/m³ (respirable fraction)
Québec	VEMP (mg/m³)	0.2 mg/m³ (total dust and fume)
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL Ceiling (mg/m³)	5 mg/m³

Lead (7439-92-1)		
Mexico	OEL TWA (mg/m³)	0.15 mg/m³ (dust and fume)
USA ACGIH	ACGIH TWA (mg/m³)	0.05 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.050 mg/m³

USA IDLH	US IDLH (mg/m³)	100 mg/m³
Alberta	OEL TWA (mg/m³)	0.05 mg/m³
British Columbia	OEL TWA (mg/m³)	0.05 mg/m³
Manitoba	OEL TWA (mg/m³)	0.05 mg/m³
New Brunswick	OEL TWA (mg/m³)	0.05 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.05 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.05 mg/m³
Nunavut	OEL STEL (mg/m³)	0.45 mg/m³
Nunavut	OEL TWA (mg/m³)	0.15 mg/m³
Northwest Territories	OEL STEL (mg/m³)	0.45 mg/m³
Northwest Territories	OEL TWA (mg/m³)	0.15 mg/m³
Ontario	OEL TWA (mg/m³)	0.05 mg/m³ (designated substances regulation)
Prince Edward Island	OEL TWA (mg/m³)	0.05 mg/m³
Québec	VEMP (mg/m³)	0.05 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.15 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³
Yukon	OEL STEL (mg/m³)	0.45 mg/m³ (dust and fume)
Yukon	OEL TWA (mg/m³)	0.15 mg/m³ (dust and fume)

Nickel (7440-02-0)		
Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.015 mg/m³
USA IDLH	US IDLH (mg/m³)	10 mg/m³
Alberta	OEL TWA (mg/m³)	1.5 mg/m³
British Columbia	OEL TWA (mg/m³)	0.05 mg/m³
Manitoba	OEL TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
Nova Scotia	OEL TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
Nunavut	OEL STEL (mg/m³)	2 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	2 mg/m³
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	1 mg/m³ (inhalable)
Prince Edward Island	OEL TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	3 mg/m³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
Yukon	OEL STEL (mg/m³)	3 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Silver (7440-22-4)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³ (dust and fume)
USA OSHA	OSHA PEL (TWA) (mg/m³)	0.01 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.01 mg/m³ (dust)
USA IDLH	US IDLH (mg/m³)	10 mg/m³ (dust)
Alberta	OEL TWA (mg/m³)	0.1 mg/m³
British Columbia	OEL STEL (mg/m³)	0.03 mg/m³
British Columbia	OEL TWA (mg/m³)	0.01 mg/m³
Manitoba	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)

New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
Nova Scotia	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
Nunavut	OEL STEL (mg/m³)	0.3 mg/m³
Nunavut	OEL TWA (mg/m³)	0.1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	0.3 mg/m³
Northwest Territories	OEL TWA (mg/m³)	0.1 mg/m³
Ontario	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
Prince Edward Island	OEL TWA (mg/m³)	0.1 mg/m³ (dust and fume)
Québec	VEMP (mg/m³)	0.1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.3 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.1 mg/m³
Yukon	OEL STEL (mg/m³)	0.03 mg/m³
Yukon	OEL TWA (mg/m³)	0.01 mg/m³

8.2. Exposure Controls

Appropriate Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective clothing. Gloves. Safety glasses. Dust formation: dust mask. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics. With molten material wear thermally protective clothing.

Hand Protection: Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Solid
Appearance	:	Metallic
Odor	:	Odorless
Odor Threshold	:	Not available
pH	:	Not available
Evaporation Rate	:	Not available
Melting Point	:	440 - 1215 °F (226.7 - 657.2 °C)
Freezing Point	:	Not available
Boiling Point	:	Not available
Flash Point	:	Not applicable
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	Not available

Relative Density	:	Not available
Specific Gravity	:	2.5 - 2.9
Solubility	:	Insoluble in water
Partition Coefficient: N-octanol/water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition.

10.5. Incompatible Materials: When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.

10.6. Hazardous Decomposition Products: Oxides of iron and carbon. Organic acid vapors. With acids, aluminum metals, or ammonium salts may react to form toxic vapors. May form solid compounds releasing heat. Lead compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified.

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: Not classified. Not classified.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Dust from physical alteration of this product causes skin irritation. Causes severe skin burns. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Aluminum: Inhalation of finely divided aluminum powder may cause pulmonary fibrosis. Inhalation of Nickel compounds has been shown in studies to provide an increased incidence of cancer of the nasal cavity, lung and possibly larynx in nickel refinery workers. Nickel: May cause a form of dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia. Manganese : Chronic exposure can cause inflammation of the lung tissue, scarring the lungs (pulmonary fibrosis). Copper: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair. Tissue damage of mucous membranes may follow chronic dust exposure. Silicon : Can cause chronic bronchitis and narrowing of the airways. Lead: Exposure can result in lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; encephalopathy; kidney disease; hypertension. Zinc: Prolonged exposure to high concentrations of zinc fumes may cause "zinc shakes", an involuntary twitching of the muscles. Otherwise, zinc is non-toxic. Tin: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure to tin dusts and fume may result in "stannosis", a mild form of pneumoconiosis. Silver:

Chronic skin contact or ingestion of silver dust, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Cobalt (7440-48-4)	
LD50 Oral Rat	215.9 - 1140 mg/kg
LC50 Inhalation Rat	> 10 mg/l (Exposure time: 1 h)
ATE US (dust, mist)	0.01 mg/l/4h

Zinc oxide (1314-13-2)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 2000 mg/kg

Tin (7440-31-5)	
LD50 Oral Rat	700 mg/kg

Manganese (7439-96-5)	
LD50 Oral Rat	> 2000 mg/kg

Lead (7439-92-1)	
ATE US (oral)	500.00 mg/kg body weight
ATE US (dust, mist)	1.50 mg/l/4h

Nickel (7440-02-0)	
LD50 Oral Rat	> 9000 mg/kg

Silver (7440-22-4)	
LD50 Oral Rat	> 2000 mg/kg

Cobalt (7440-48-4)	
IARC Group	2B

Lead (7439-92-1)	
IARC Group	2A
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.

Nickel (7440-02-0)	
IARC Group	2B
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

Copper (7440-50-8)	
LC50 Fish 1	<= 0.0068 (0.0068 - 0.0156) mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 1	0.0426 (0.0426 - 0.0535) mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
LC 50 Fish 2	0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	0.031 (0.031 - 0.054) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Cobalt (7440-48-4)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Zinc oxide (1314-13-2)	
LC50 Fish 1	780 µg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.122 mg/l
NOEC chronic fish	0.026 mg/l (Species: Jordanella floridae)

Manganese (7439-96-5)	
NOEC chronic fish	3.6 mg/l (Exposure time: 96h; Species: Oncorhynchus mykiss)

Lead (7439-92-1)	
LC50 Fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	600 µg/l (Exposure time: 48 h - Species: water flea)
LC 50 Fish 2	1.17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Nickel (7440-02-0)	
LC50 Fish 1	100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	13 (13 - 200) µg/l (Exposure time: 48h - Species: Ceriodaphnia dubia [static])
LC 50 Fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 2	0.174 (0.174 - 0.311) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Silver (7440-22-4)	
LC50 Fish 1	0.00155 (0.00155 - 0.00293) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	0.00024 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	0.0062 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Persistence and Degradability

Aluminum Alloys	
Persistence and Degradability	Not established.

Copper (7440-50-8)	
Persistence and Degradability	Not readily biodegradable.

12.3. Bioaccumulative Potential

Aluminum Alloys	
Bioaccumulative Potential	Not established.

Cobalt (7440-48-4)	
BCF Fish 1	(no bioaccumulation)

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Treatment Methods: Recycle product or dispose properly.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Aluminum Alloys	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Aluminum (7429-90-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Silicon (7440-21-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Cobalt (7440-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Zinc oxide (1314-13-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Tin (7440-31-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Manganese (7439-96-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Lead (7439-92-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable Quantity, Section 304 of EPA's List of Lists):	100 lb (only applicable if particles are < 100 µm)
SARA Section 313 - Emission Reporting	0.1 %

Silver (7440-22-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable Quantity, Section 304 of EPA's List of Lists):	1000 lb < 100 um CERCLA/SARA RQ CHANGE TITLE
SARA Section 313 - Emission Reporting	1.0 %

15.2. US State Regulations

Cobalt (7440-48-4)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Lead (7439-92-1)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.

Nickel (7440-02-0)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Aluminum (7429-90-5)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Silicon (7440-21-3)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Copper (7440-50-8)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Cobalt (7440-48-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Zinc oxide (1314-13-2)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Tin (7440-31-5)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Manganese (7439-96-5)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Lead (7439-92-1)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Nickel (7440-02-0)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

Silver (7440-22-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Aluminum Alloys

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Aluminum (7429-90-5)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class B Division 6 - Reactive Flammable Material Class B Division 4 - Flammable Solid

Silicon (7440-21-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Copper (7440-50-8)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Cobalt (7440-48-4)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Zinc oxide (1314-13-2)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Tin (7440-31-5)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Manganese (7439-96-5)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Lead (7439-92-1)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Nickel (7440-02-0)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Silver (7440-22-4)
Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/15/2014

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 1 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 1
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Sol. 1	Flammable solids Category 1
Repr. 1A	Reproductive toxicity Category 1A
Repr. 2	Reproductive toxicity Category 2
Resp. Sens. 1B	Respiratory sensitisation Category 1B
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
Water-react. 2	Substances and mixtures which in contact with water emit flammable gases Category 2
H228	Flammable solid
	May form combustible dust concentrations in air
H261	In contact with water releases flammable gases
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H402	Harmful to aquatic life

H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

ThyssenKrupp Materials NA, Inc.
22355 W. Eleven Mile Road
Southfield, Michigan 48034
TEL: 248-233-5681

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2

Modified on May 4, 2011

1 Identification of substance

Product name: Aluminum Brightener

Synonyms: SM-O-9R

Manufacturer/Supplier:
Kaady Chemical Corp. DATE REVISED: 12/20/12
2118 Adams St.
San Leandro, CA 94577
(800) 755-2239

Emergency information:
After normal hours call 510-430-2792 or Chemtrec (800) 424-9300 acct# 614010

2 Composition/Data on components	CAS #	% by weight
Hydrogen Fluoride	7664-39-3	10-12
Sulfuric Acid	7664-93-9	10-12

3 Hazards identification

Emergency Overview

POISON! DANGER! CORROSIVE. EXTREMELY HAZARDOUS LIQUID AND VAPOR. CAUSES SEVERE BURNS WHICH MAY NOT BE IMMEDIATELY PAINFUL OR VISIBLE. MAY BE FATAL IF SWALLOWED OR INHALED. LIQUID AND VAPOR CAN BURN SKIN, EYES AND RESPIRATORY TRACT. CAUSES BONE DAMAGE. REACTION WITH CERTAIN METALS GENERATES FLAMMABLE AND POTENTIALLY EXPLOSIVE HYDROGEN GAS.

Classification system
HMIS ratings (scale 0-4)

Hazard Categories:	Health	Fire	Pressure	Reactivity
Immediate	Yes	No	No	Yes
Delayed	Yes	XXX	XXX	XXX

HMIS Hazard ratings: Health 3 Fire 0 Instability 0 Other B
(Glasses, gloves)
NFPA Hazard Ratings: Health 3 Flammability 0 Reactivity 1 Special Cor
Hazard Ratings: Least: 0 Slight: 1 Moderate: 2 High: 3 Extreme: 4

4 First aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Remove contaminated clothing. Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
Apply Calcium Gluconate gel to affected area, except around eyes.
After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing, seek immediate medical advice.
Information for doctor
Note to Physician:
General: For burns of moderate areas, (greater than 8 square inches), ingestion and significant inhalation exposure, severe systemic effects may occur, and admission to a critical care unit should be considered.

Danger
If swallowed or in case of vomiting, there is danger of entering the lungs.

5 Fire fighting measures

Not considered to be a fire hazard. Fire may produce poisonous or irritating gases.
Reacts with metals forming flammable Hydrogen gas.
Fire Extinguishing Media:
Keep upwind of fire. Use water or carbon dioxide on fires in which Hydrofluoric Acid is involved.
Halon or foam may also be used. In case of fire, the sealed containers can be kept cool by spraying with water.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.
In contact with air, the acid gives off corrosive fumes which are heavier than air.

6 Accidental release measures

Notify safety personnel, provide adequate ventilation, and remove ignition sources since hydrogen may be generated by reactions with metals.
Wear appropriate personal protective equipment as specified in Section 8.
Do not flush to sewers or waterways.
Spills: Evacuate the danger area. Apply magnesium sulfate (dry) to the spill area.
Follow up with inert absorbent and add soda ash or magnesium oxide and slaked lime.
Collect in appropriate plastic containers and save for disposal. Wash spill site with soda ash solution.
NOTE: Porous materials (concrete, wood, plastic, etc.) will absorb HF and become a hazard for an indefinite time. Such spills should be cleaned and neutralized immediately.
Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Measures for environmental protection:
Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

7 Handling and storage

Keep in tightly closed polyethylene containers. Store in a cool, dry place with adequate ventilation separated from other chemicals. Protect from physical damage.
Storage facilities should be constructed for containment and neutralization of spills.
Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.
Do not store together with alkalies (caustic solutions).

8 Exposure controls and personal protection

General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Protection of hands: Impervious gloves
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties

Appearance: Colorless, fuming liquid.
Odor: Acrid odor. Do not breathe fumes.
Solubility: Infinitely soluble.
Specific Gravity: 1.08 (9.02#/ gal. approx.)
pH: Very acid
% Volatiles by volume @ 21C (70F): approx. 85%
Boiling Point: Not determined
Melting Point: Not determined
Vapor Density (Air=1): Not determined
Vapor Pressure (mm Hg): Not determined
Evaporation Rate (BuAc=1): No information found.

10 Stability and reactivity

Stable at room temperature (68F) when stored and used under proper conditions.
Hazardous Decomposition Products:
On contact with metals, liberates hydrogen gas. On heating, could yield toxic fumes of fluorides. Attacks glass.
Reacts with silica to produce silicon tetrafluoride, a hazardous colorless gas.
Hazardous Polymerization: Will not occur.
Incompatibilities:
Product is incompatible with alkalis, organic materials, most common metals, rubber, leather, strong bases,
carbonates, sulfides, cyanides, oxides of silicon, especially glass, concrete, silica.
Conditions to Avoid: Heat and contact with incompatibles.

11 Toxicological information

Sulfuric acid
Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m3/2H; standard Draize, eye rabbit, 250 ug (severe);
investigated as a tumorigen, mutagen, reproductive effector.
Carcinogenicity:
Cancer Status: The International Agency for Research on Cancer (IARC) has classified
"strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1).
This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

Hydrofluoric acid: Inhalation rat LC50: 1276 ppm/1H; Investigated as a mutagen, reproductive effector.

12 Ecological information

Environmental Fate:
If the pH is > 6.5, soil can bind fluorides tightly. High calcium content will immobilize fluorides.
Environmental Toxicity:
No data.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options.
State and local disposal regulations may differ from federal disposal regulations.
Dispose of container and unused contents in accordance with federal, state and local requirements.

14 Transport information

Domestic (Land, D.O.T.)

Proper Shipping Name: RQ, HYDROFLUORIC ACID SOLUTION (WITH NOT MORE THAN 60% STRENGTH)
Hazard Class: 8, 6.1
UN/NA: UN1790
Packing Group: II
Corrosive, Poison
ERG 157
Information reported for product/size: Not possible in one, non bulk container

International (Water, I.M.O.)

Proper Shipping Name: HYDROFLUORIC ACID SOLUTION (WITH NOT MORE THAN 60% STRENGTH)
Hazard Class: 8, 6.1
UN/NA: UN1790
Packing Group: II
Corrosive, Poison
ERG 157
Information reported for product/size: Not possible in one, non bulk container

15 Regulations

--------\Chemical Inventory Status - Part 1\---------

Ingredient	TSCA	EC	Canada DSL	NDSL
Sulfuric Acid (7664-93-9)	Yes	Yes	Yes	No
Hydrogen Fluoride (7664-39-3)	Yes	Yes	Yes	No

--------\Federal, State & International Regulations - Part 1\---------

	-SARA 302-		------SARA 313------	
Ingredient	RQ	TPQ	List	Chemical Catg.
Sulfuric Acid (7664-93-9)	1000	1000	Yes	No
Hydrogen Fluoride (7664-39-3)	100	100	Yes	No

--------\Federal, State & International Regulations - Part 2\----------

Ingredient	-RCRA- CERCLA	-TSCA- 261.33	8(d)
Sulfuric Acid (7664-93-9)	1000	No	No
Hydrogen Fluoride (7664-39-3)	100	U134	No

:

This SDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
SDS prepared by: Richard Miller 800-342-3577

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 31, 2010
MSDS NO. ALRESIN019 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
3/31/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	65.000- 85.000	1344-28-1
Calcium Oxide	1.000- 3.000	1305-78-8
Cured PhenolFormaldehyde Resin	15.000- 25.000	9003-35-4

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increasebone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT

Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CANADA)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL

Aluminum Oxide, Non-fibrous

	MG/M3	15.0000	10.0000	10.0000
Calcium Oxide				
	MG/M3	5.0000	2.0000	0.0000
Cured PhenolFormaldehyde Resin				
	PPM	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available
=		

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 31, 2010
MSDS NO. ALRESIN019 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
3/31/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	65.000- 85.000	1344-28-1
Calcium Oxide	1.000- 3.000	1305-78-8
Cured PhenolFormaldehyde Resin	15.000- 25.000	9003-35-4

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increasebone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT

Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
THER PROTECTION
se of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
lid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
esin bonded materials demonstrate similar degradation rates as enolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation. (USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CANADA)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

BSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous				

	MG/M3	15.0000	10.0000	10.0000
Calcium Oxide				
	MG/M3	5.0000	2.0000	0.0000
ured PhenolFormaldehyde Resin				
	PPM	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: FEB 26, 2010
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
2/04/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS

Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed .
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.

Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.

Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available
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MATERIAL SAFETY DATA SHEET

DATE PRINTED: FEB 26, 2010
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
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SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

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Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.

INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed .
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes

no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: FEB 26, 2010
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
2/04/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed .
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the

TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of

Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

Common Name: ALUMINUM OXIDE RESIN GRINDING WHEEL, ALRESIN056 OUTBOUND

Manufacturer: SAINT-GOBAIN ABRASIVES

MSDS Revision Date: 2/1/2010

Grainger Item Number(s): 1LZN3, 1PYA8, 1PYB4, 1PYB5, 1PYB6, 1PYB7, 1PYB8, 1PYB9, 1PYC1, 1PYC2, 1PYC3, 1PYC4, 1PYC5, 1PYC6, 1PYC7, 1PYC8, 1PYC9, 1PYD1, 1PYD2, 1PYD3, 1PYD4, 1PYD5, 1PYD6, 1PYD7, 1PYD8, 1PYD9, 1PYE1, 1PYE2, 1PYE3, 1PYE4, 2D749, 2D922, 2KNC9, 2KND1, 2KND2, 2KND3, 2KND4, 2KND5, 2KND6, 3VV70, 3WM17, 3WM97, 3WN37, 3WN41, 3WN42, 3WN43, 3WT23, 4B171, 4DDU2, 4DDU7, 4DDU8, 4DDU9, 4DDV1, 4DDV2, 4DDV3, 5A876, 5A930, 6A076, 6A077, 6A095, 6A097, 6A099, 6A101, 6A102, 6A103, 6PG87, 6PH25, 6PH26, 6PH27, 6PH29, 6PH30, 6PH31, 6PH32, 6PJ94, 9AK28

Manufacturer Model Number(s):

MSDS Table of Contents

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NORTON

MATERIAL SAFETY DATA SHEET

PART#: 07660775922

DATE PRINTED: FEB 26, 2010

MSDS NO.: ALRESIN056 OUTBOUND

ALUMINUM OXIDE RESIN GRINDING WHEEL

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

top

PRODUCT NAME: ALUMINUM OXIDE RESIN GRINDING WHEEL

TRADE NAME: ALUNDUM WHEEL

MANUFACTURER(4):
SAINT-GOBAIN ABRASIVES, INC.

ONE NEW BOND STREET
WORCESTER, MA, 01606
(508) 795-5000

REVISION DATE: 2/01/2010

MSDS PRINT FORMAT: NUSA

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

top

SUBSTANCE DESCRIPTION	PERCENT	CAS#
ALUMINUM OXIDE, NON-FIBROUS	60.000 - 90.000	1344-28-1
CURED PHENOLFORMALDEHYDE RESIN	2.000 - 15.000	9003-35-4
INORGANIC FLUORIDES**	1.000 - 15.000	NA
IRON DISULFIDE	2.000 - 30.000	12068-85-8

**SUBSTANCE IS A COMPOUND AND/OR MIXTURE

OTHER: NOT APPLICABLE

SECTION 3. HAZARDS IDENTIFICATION

top

INHALATION ACUTE EXPOSURE EFFECTS:
DUST MAY BE SLIGHTLY IRRITATING TO EYES AND RESPIRATORY TRACT AT HIGH CONCENTRATIONS.

INHALATION CHRONIC EXPOSURE EFFECTS:

CHRONIC: MAY AFFECT BREATHING CAPACITY.

FOR PRODUCTS CONTAINING PHENOL/FORMALDEHYDE RESIN, DUST GENERATED FROM INTENDED USE MAY CONTAIN TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE WHICH UNDER EXCESSIVE EXPOSURE MAY CAUSE SKIN SENSITIZATION AND AIRWAY OBSTRUCTION.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES:
EXCESSIVE EXPOSURE TO INORGANIC FLUORIDES HAVE BEEN SHOWN TO INCREASE BONE DENSITY.

EYE CONTACT ACUTE EXPOSURE EFFECTS:
DUST MAY IRRITATE EYES.

SKIN CONTACT ACUTE EXPOSURE EFFECTS:
SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.

INGESTION ACUTE EXPOSURE EFFECTS:
NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.

SECTION 4. FIRST AID MEASURES

top

INHALATION:
REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.

EYE CONTACT:

WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.

INGESTION:
CALL POISON CONTROL CENTER, HOSPITAL EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY.

SECTION 5. FIRE FIGHTING MEASURES

top

FIRE FIGHTING PROCEDURES: NOT APPLICABLE

HAZARDOUS PRODUCTS/COMBUSTION: NONE.

HAZARD RATING SOURCE:

NFPA:
HEALTH 1
FLAMMABILITY 0
REACTIVITY 0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

top

CLEAN-UP: FOLLOW NORMAL CLEAN UP PROCEDURES.

SECTION 7. HANDLING AND STORAGE

top

HANDLING:
ALWAYS HANDLE AND STORE WHEELS IN A CAREFUL MANNER.

ALWAYS VISUALLY INSPECT ALL WHEELS BEFORE MOUNTING.

ALWAYS CHECK MACHINE SPEED AGAINST THE ESTABLISHED MAXIMUM SAFE OPERATING SPEED MARKED ON THE WHEEL.

ALWAYS CHECK MOUNTING FLANGES FOR EQUAL AND CORRECT DIAMETER.

ALWAYS USE MOUNTING BLOTTERS.

ALWAYS BE SURE WORK REST IS PROPERLY ADJUSTED.

ALWAYS USE A SAFETY GUARD COVERING AT LEAST ONE-HALF OF THE GRINDING WHEEL.

ALWAYS ALLOW NEWLY MOUNTED WHEELS TO RUN AT OPERATING SPEED, WITH GUARD IN PLACE, FOR AT LEAST ONE MINUTE BEFORE GRINDING.

ALWAYS TURN OFF COOLANT BEFORE STOPPING WHEEL TO AVOID CREATING AN OUT-OF-BALANCE WHEEL.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

top

VENTILATION PROTECTION:
RECOMMEND USING LOCAL EXHAUST VENTILATION WHEN GENERAL VENTILATION IS NOT KEEPING THE AIRBORNE CONCENTRATION BELOW THE TLV.

RESPIRATORY PROTECTION:
RESPIRATORS ARE REQUIRED WHEN AIRBORNE CONTAMINANT LEVELS EXCEED THE TLV(S).

EYE PROTECTION:

ALWAYS WEAR SAFETY GLASSES OR SOME TYPE OF EYE PROTECTION WHEN GRINDING.

OTHER PROTECTION:
USE OF THIS PRODUCT MAY CREATE ELEVATED SOUND LEVELS. HEARING PROTECTION SHOULD BE WORN WHERE REQUIRED (SEE OSHA 29 CFR 1910.134 AND OTHER APPLICABLE REGULATIONS).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

top

APPEARANCE & ODOR: SOLID ARTICLE. ODORLESS.

SECTION 10. STABILITY AND REACTIVITY

top

INCOMPATIBILITIES: AVOID ACIDS OF ALL TYPES WITH A pH <4.0.

DECOMPOSITION:
IN USE, DUST AND DECOMPOSING ODORS MAY BE GENERATED. IN MOST CASES, THE MATERIAL REMOVED FROM THE WORKPLACE WILL BE SIGNIFICANTLY GREATER THAN THE GRINDING WHEEL COMPONENTS. COOLANTS MAY PRODUCE OTHER DECOMPOSITION PRODUCTS.

FOR PRODUCTS CONTAINING PHENOL AND FORMALDEHYDE RESIN, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF FLUORIDES.

SECTION 11. TOXICOLOGICAL INFORMATION

top

CARCINOGENICITY:
FOR WHEELS CONTAINING FIBERGLASS, FIBER DIAMETERS ARE GREATER THAN 10(MICRO)M, THEREFORE CONSIDERED NON-RESPIRABLE.

FIBERGLASS - IARC-3:

LD50/LC50: VALUES ARE NOT APPROPRIATE OR AVAILABLE.

SECTION 12. ECOLOGICAL INFORMATION

top

CHEMICAL FATE:
RESIN BONDED MATERIALS DEMONSTRATE SIMILAR DEGRADATION RATES AS PHENOLIC PLASTICS.

VITRIFIED PRODUCTS DO NOT APPRECIABLY DECAY.

SECTION 13. DISPOSAL CONSIDERATIONS

top

WASTE DISPOSAL:
USE STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS.

PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

SECTION 14. TRANSPORT INFORMATION

top

HAZARD CLASS: N/A

SECTION 15. REGULATORY INFORMATION

top

EXPOSURE LIMITS/REGULATORY INFORMATION:

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
ALUMINUM OXIDE, NON-FIBROUS	MG/M3	15.0000	10.0000	10.0000
CURED PHENOLFORMALDEHYDE RESIN	PPM	0.0000	0.0000	0.0000
INORGANIC FLUORIDES	MG/M3	2.5000	2.5000	2.5000
IRON DISULFIDE	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS:

CA PROP 65: NOT APPLICABLE

TSCA:

SECTION 8(B) - INVENTORY STATUS:
ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER THE REGULATIONS OF THE TOXIC SUBSTANCE CONTROL ACT.

DOMESTIC SUBSTANCE LIST:
ALL COMPONENTS OF THIS PRODUCT ARE FOUND ON THE DOMESTIC SUBSTANCE LIST OF THE COUNTRY OF CANADA.

SECTION 16. OTHER INFORMATION

top

DISCLAIMER:
THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE TAKEN FROM SOURCES BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF; HOWEVER, THE COMPANY MAKES NO WARRANTY WITH RESPECT TO THE ACCURACY OF THE INFORMATION OR THE SUITABILITY OF THE RECOMMENDATIONS, AND ASSUMES NO LIABILITY TO ANY USER THEREOF.

KEY TO ABBREVIATIONS:
EQ=EQUAL
AP=APPROXIMATELY
LT=LESS THAN
TR=TRACE
GT=GREATER THAN
ND=NO DATA AVAILABLE

MATERIAL SAFETY DATA SHEET

DATE PRINTED: FEB 26, 2010
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
2/01/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		60.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 15.000	9003-35-4
Inorganic Fluorides	**	1.000- 15.000	NA
Iron Disulfide		2.000- 30.000	12068-85-8

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS

No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed .
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal,

State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Inorganic Fluorides	MG/M3	2.5000	2.5000	2.5000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

Crib # 8N015
Loc 010704

MATERIAL SAFETY DATA SHEET

PART# 66252829856
DATE PRINTED: MAR 31, 2010
MSDS NO. ALRESIN053 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/26/2010
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		50.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 18.000	9003-35-4
Fiberglass		1.000- 10.000	65997-17-3
Iron Disulfide		2.000- 15.000	12068-85-8
Sulfates & Sulfides	**	1.000- 10.000	NA

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increasebone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.

INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION

Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000
Sulfates & Sulfides	MG/M3	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual
AP=APproximately
LT=Less Than
TR=TRace
GT=Greater Than
ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUL 10, 2009
MSDS NO. ALRESIN006 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
7/10/2009
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	50.000- 90.000	1344-28-1
Barium Sulfate	1.000- 25.000	7727-43-7
Cured PhenolFormaldehyde Resin	3.000- 20.000	9003-35-4
Fiberglass	1.000- 10.000	65997-17-3

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.

OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Barium Sulfate	MG/M3	10.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

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MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUL 10, 2009
MSDS NO. ALRESIN006 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
7/10/2009
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	50.000- 90.000	1344-28-1
Barium Sulfate	1.000- 25.000	7727-43-7
Cured PhenolFormaldehyde Resin	3.000- 20.000	9003-35-4
Fiberglass	1.000- 10.000	65997-17-3

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.

OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Barium Sulfate	MG/M3	10.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 01, 2010
MSDS NO. ALRESIN006 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
7/10/2009
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	50.000- 90.000	1344-28-1
Barium Sulfate	1.000- 25.000	7727-43-7
Cured PhenolFormaldehyde Resin	3.000- 20.000	9003-35-4
Fiberglass	1.000- 10.000	65997-17-3

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increasebone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifical respiration. Get medical attention immediately .
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed .
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the

TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Barium Sulfate	MG/M3	10.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

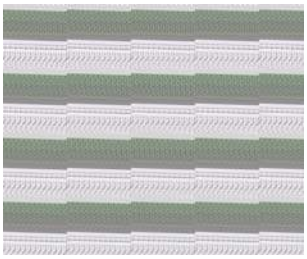
SECTION 16. OTHER INFORMATION

DISCLAIMER

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET



DATE PRINTED: JUL 31, 2007
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/24/2007
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is

not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JAN 30, 2007
MSDS NO. ALRESIN055 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/30/2007
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		25.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin		5.000- 20.000	9003-35-4
Fiberglass		1.000- 10.000	65997-17-3
Inorganic Fluorides	**	1.000- 25.000	NA
Iron Disulfide		3.000- 15.000	12068-85-8

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial

respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000

Cured PhenolFormaldehyde Resin				
	PPM	0.0000	0.0000	0.0000
Fiberglass				
	FBR/CC	1.0000	0.0000	0.0000
Inorganic Fluorides				
	MG/M3	2.5000	2.5000	2.5000
Iron Disulfide				
	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available
=		

MSI

MAGER SCIENTIFIC, INC.

P.O. BOX 160, DEXTER, MICHIGAN 48130-0160
PHONE (734)426-3885 FAX (734)426-3987

Distributor: Mager Scientific
1100 Baker Rd.
P.O. Box 160
Dexter MI 48130-0160

Phone: (734) 426-3885

Distributor Product No.

CO-201	**CO-202**	**CO-203**
CO-221	**CO-222**	**CO-223**
CO-241	**CO-242**	**CO-243**

Manufacturer: Saint-Gobain Abrasives, Inc.
Manufacturer Product No.: Alundum Wheel

Dear Customer:

In order to comply with the Hazard Communication Law which went into effect November 25, 1985, attached is the material safety data sheet pertaining to our product noted above.

Additional sheets are available upon request. Please feel free to contact us if we can be of further assistance.

Sincerely,

Mager Scientific, Inc.
Customer Service

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JAN 25, 2007
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION
PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/24/2007

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION
INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES
INHALATION
Remove to fresh air. If breathing has stopped, give artificial

respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES
FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES
CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE
HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION

Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR

Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES

Avoid acids of all types with a pH < 4.0.

DECOMPOSITION

In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY

This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.

LD50/LC50

Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE

Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.

Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.

Products with listed flourides may have slightly soluble flouride swarf.

RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS

This product is not hazardous as defined by the Department of Transportation.(USA)

This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual LT=Less Than GT=Greater Than
AP=APproximately = TR=TRace ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUL 31, 2007
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/24/2007
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.

EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR

Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass				

	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide				
	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

SUPERIOR WELDING SUPPLY CO

ORIGINAL
FORM #81-NO/GW-AL56

382

MATERIAL SAFETY DATA SHEET

NORTON

DATE PRINTED: JAN 30, 2007
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/22/2007
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		60.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 15.000	9003-35-4
Inorganic Fluorides	**	1.000- 15.000	NA
Iron Disulfide		2.000- 30.000	12068-85-

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tr

high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust ge from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artifi respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical as
EYE CONTACT
Wash with large amounts of water. Obtain first aid and med assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or phy immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1

FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diamet
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of th wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating spee guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid cre an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ven not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hear

protection should be worn where required (see OSHA 29 CFR and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In mo the material removed from the workplace will be significan than the grinding wheel components. Coolants may produce decomposition products.

For products containing Phenol and formaldehyde resin, the decomposition may produce trace amounts of phenol and form

For products containing inorganic fluorides, thermal decom may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are grea 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rat Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable F
State, Provincial and local laws.
Products with listed flourides may have slightly soluble f
swarf.
RECYCLING PROGRAM - the Company has developed a grinding
wheel recycling program. If you are interested in returni
stubs, information can be obtained by dialing Customer Ser

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMAT

SUBSTANCE DESCRIPTION	UNITS	OSHA	A
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0
Inorganic Fluorides	MG/M3	2.5000	2.5
Iron Disulfide	MG/M3	10.0000	10.0

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the re
of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic S
List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are t
sources believed to be accurate as of the date hereof; how
the Company makes no warranty with respect to the accuracy
information or the suitability of the recommendations, and
no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Gr
AP=APproximately	TR=TRace	ND=No
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MATERIAL SAFETY DATA SHEET

PART# 07660775940
DATE PRINTED: JUL 31, 2007
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/22/2007
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		60.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 15.000	9003-35-4
Inorganic Fluorides	**	1.000- 15.000	NA
Iron Disulfide		2.000- 30.000	12068-85-8

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides:
Excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS

No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is

not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOH
Aluminum Oxide, Non-Fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Inorganic Fluorides	MG/M3	2.5000	2.5000	2.5000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof, however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual
AP=APproximately
=
LT=Less Than
TR=TRace
GT=Greater Than
ND=No Data available

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DURAMARK™

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 02, 2005
MSDS NO. 4402-29001 ALRESIN053 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/20/2005
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		50.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 18.000	9003-35-4
Fiberglass		1.000- 10.000	65997-17-3
Iron Disulfide		2.000- 15.000	12068-85-8
Sulfates & Sulfides	**	1.000- 10.000	NA

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

Brad Vaughn

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES

Brad Vaughn

Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000
Sulfates & Sulfides	MG/M3	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof Brad Vaughn

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available

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MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 02, 2005
MSDS NO. ALRESIN054 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

Norton Company

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/20/2005
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		9.000- 88.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 75.000	9003-35-4
Iron Disulfide		3.000- 35.000	12068-85-8
Sulfates & Sulfides	**	1.000- 10.000	NA

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.

RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000
Sulfates & Sulfides	MG/M3	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations
of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance
List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

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MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAY 09, 2005
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

CARBORUNDUM

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
MANUFACTURER(1)
Saint-Gobain Abrasives, Inc.
1 New Bond St, MA. 01615
(800) 231-4154
REVISION DATE
1/19/2005
MSDS PRINT FORMAT
CANAUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial

respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when

grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous

Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available

=

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAY 09, 2005
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
1/19/2005
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.

For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the

TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS

This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUN 16, 2004
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum Wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
6/01/2004
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT

Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.
For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.
For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:
EXPOSURE LIMIT DESCRIPTIONS

CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUL 23, 2003
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
MANUFACTURER(1)
Saint-Gobain Abrasives, Inc.
1 New Bond St, MA. 01615
(800) 231-4154
REVISION DATE
7/17/2003
MSDS PRINT FORMAT
CANAUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-0

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION

Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES

Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.
For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.
For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
This product or its ingredients have not been identified as a carcinogen or probable carcinogen by NTP, IARC monographs, or OSHA.
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - The Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation. (USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	EXPOSURE LIMITS/REGULATORY INFORMATION UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldelyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:
EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA

Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available

=

DISCLAIMER

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

50495

MATERIAL SAFETY DATA SHEET

PART# 66252830611
DATE PRINTED: FEB 05, 2003
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
1 New Bond St.
Worcester, MA, 01615
(508) 795-5000
REVISION DATE
2/05/2003
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		60.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 15.000	9003-35-4
Inorganic Fluorides	**	1.000- 15.000	NA
Iron Disulfide		2.000- 30.000	12068-85-8

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT

Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.
For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.
For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degr

MATERIAL SAFETY DATA SHEET

Norton Company

DATE PRINTED: FEB 05, 2003
MSDS NO. ALRESIN056 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
1 New Bond St.
Worcester, MA, 01615
(508) 795-5000
REVISION DATE
2/05/2003
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION		PERCENT	CAS#
Aluminum Oxide, Non-fibrous		60.000- 90.000	1344-28-1
Cured PhenolFormaldehyde Resin		2.000- 15.000	9003-35-4
Inorganic Fluorides	**	1.000- 15.000	NA
Iron Disulfide		2.000- 30.000	12068-85-8

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phenol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.

EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR

Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.
For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.
For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
For wheels containing fiberglass, fiber diameters are greater than 10um, therefore considered non-respirable.
Fiberglass - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
N/A

SECTION 15. REGULATORY INFORMATION

	EXPOSURE LIMITS/REGULATORY INFORMATION			
SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Inorganic Fluorides	MG/M3	2.5000	2.5000	2.5000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:
EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65

Not Applicable
TSCA
Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List of the country of Canada.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

ITEM: 5GC50 - Wheel 4x0.045x5/8 In

PICK_REQ: 1017275275 **MATERIAL SAFETY DATA SHEET (MSDS)** **MSDS: A8362**

This MSDS should be attached or kept with the respective product with which it is associated.

AL SAFETY DATA SHEET - A8362

Associated Grainger Item: 5GC50 - Wheel 4x0.045x5/8 In

3WM14, 3WM26, 3WN23, 3WN26, 3WR32, 3WT23, 3WV13, 3WW26, 3WX08, 4B143, 4B146 4B147, 4B151, 4B160, 4B161, 4B162, 4B163, 4B172, 5AB72, 5A930, 5GC50, 5GC52 5GC53, 5GC54, 6A101, 6A102, 6A103, 6A104, 6PG60, 6PG61, 6PG62, 6PG64, 6PG66 6PG69, 6PG94, 6PH45, 6PH58, 6PJ32, 6PJ95, 6PJ96, 6PJ97, 6PK78, 6PL20, 6PL25 6PL30, 6PL32, 6PL45, 6RH56, 6RH88, 6RJ08

NORTON

NORTON COMPANY

MATERIAL SAFETY DATA SHEET

PART#: 66252930435

DATE PRINTED: FEB 25, 2002

MSDS NO.: ALRESIN053 OUTBOUND

ALUMINUM OXIDE RESIN GRINDING WHEEL

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: ALUMINUM OXIDE RESIN GRINDING WHEEL

TRADE NAME: ALUNDUM WHEEL

MANUFACTURER(4):
SAINT-GOBAIN ABRASIVES, INC.
1 NEW BOND ST.
WORCESTER, MA, 01615
(508) 795-5000

REVISION DATE: 12/03/2001

MSDS PRINT FORMAT: NOSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS #
ALUMINUM OXIDE, NON-FIBROUS	50.000 - 90.000	1344-28-1
CURED PHENOL FORMALDEHYDE RESIN	2.000 - 18.000	9003-35-4
FIBERGLASS	1.000 - 10.000	65997-17-3
IRON SULFIDE	2.000 - 15.000	12068-85-8
SULFATES & SULFIDES **	1.000 - 10.000	NA

** SUBSTANCE IS A COMPOUND AND/OR MIXTURE

OTHER: NOT APPLICABLE

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS:
DUST MAY BE SLIGHTLY IRRITATING TO EYES AND RESPIRATORY TRACT AT HIGH CONCENTRATIONS.

INHALATION CHRONIC EXPOSURE EFFECTS:

CHRONIC:
MAY AFFECT BREATHING CAPACITY.

FOR PRODUCTS CONTAINING PHENOL/FORMALDEHYDE RESIN, DUST GENERATED FROM INTENDED USE MAY CONTAIN TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE WHICH UNDER EXCESSIVE EXPOSURE MAY CAUSE SKIN SENSITIZATION AND AIRWAY OBSTRUCTION.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES, EXCESSIVE EXPOSURE TO INORGANIC FLUORIDES HAVE BEEN SHOWN TO INCREASE BONE DENSITY.

EYE CONTACT ACUTE EXPOSURE EFFECTS: DUST MAY IRRITATE EYES.

SKIN CONTACT ACUTE EXPOSURE EFFECTS:
SOME MAY EXPERIENCE SKIN IRRITATION FROM DUST.

INGESTION ACUTE EXPOSURE EFFECTS:
NO KNOWN ADVERSE EFFECTS, BUT INGESTION NOT RECOMMENDED.

SECTION 4. FIRST AID MEASURES

INHALATION:
REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
WASH AFFECTED AREAS WITH SOAP AND WATER. OBTAIN MEDICAL ASSISTANCE.

EYE CONTACT:
WASH WITH LARGE AMOUNTS OF WATER. OBTAIN FIRST AID AND MEDICAL ASSISTANCE, IF NEEDED.

INGESTION:
POISON CONTROL CENTER, HOSPITAL EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES: NOT APPLICABLE

HAZARDOUS PRODUCTS/COMBUSTION: NONE.

HAZARD RATING SOURCE:

NFPA:
HEALTH 1
FLAMMABILITY 0
REACTIVITY 0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP: FOLLOW NORMAL CLEAN UP PROCEDURES.

SECTION 7. HANDLING AND STORAGE

HANDLING:
ALWAYS HANDLE AND STORE WHEELS IN A CAREFUL MANNER.
ALWAYS VISUALLY INSPECT ALL WHEELS BEFORE MOUNTING.
ALWAYS CHECK MACHINE SPEED AGAINST THE ESTABLISHED MAXIMUM SAFE OPERATING SPEED MARKED ON THE WHEEL.
ALWAYS CHECK MOUNTING FLANGES FOR EQUAL AND CORRECT DIAMETER.
ALWAYS USE MOUNTING BLOTTERS.
ALWAYS BE SURE WORK REST IS PROPERLY ADJUSTED.
ALWAYS USE A SAFETY GUARD COVERING AT LEAST ONE-HALF OF THE GRINDING WHEEL.
ALWAYS ALLOW NEWLY MOUNTED WHEELS TO RUN AT OPERATING SPEED, WITH GUARD IN PLACE, FOR AT LEAST ONE MINUTE BEFORE GRINDING.
ALWAYS TURN OFF COOLANT BEFORE STOPPING WHEEL TO AVOID CREATING AN OUT-OF-BALANCE WHEEL.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION:
RECOMMEND USING LOCAL EXHAUST VENTILATION WHEN GENERAL VENTILATION IS NOT KEEPING THE AIRBORNE CONCENTRATION BELOW THE TLV.

RESPIRATORY PROTECTION:
RESPIRATORS ARE REQUIRED WHEN AIRBORNE CONTAMINANT LEVELS EXCEED THE TLV(S).

EYE PROTECTION:
ALWAYS WEAR SAFETY GLASSES OR SOME TYPE OF EYE PROTECTION WHEN GRINDING.

OTHER PROTECTION:
USE OF THIS PRODUCT MAY CREATE ELEVATED SOUND LEVELS. HEARING PROTECTION SHOULD BE WORN WHERE REQUIRED (SEE OSHA 29 CFR 1910.134 AND OTHER APPLICABLE REGULATIONS).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR: SOLID ARTICLE. ODORLESS.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES: AVOID ACIDS OF ALL TYPES WITH A pH <4.0.

DECOMPOSITION:
IN USE, DUST AND DECOMPOSING ODORS MAY BE GENERATED. IN MOST CASES, THE MATERIAL REMOVED FROM THE WORKPLACE WILL BE SIGNIFICANTLY GREATER THAN THE GRINDING WHEEL COMPONENTS. COOLANTS MAY PRODUCE OTHER DECOMPOSITION PRODUCTS.

FOR PRODUCTS CONTAINING PHENOL AND FORMALDEHYDE RESIN, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF PHENOL AND FORMALDEHYDE.

FOR PRODUCTS CONTAINING INORGANIC FLUORIDES, THERMAL DECOMPOSITION MAY PRODUCE TRACE AMOUNTS OF FLUORIDES.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY:
FOR WHEELS CONTAINING FIBERGLASS, FIBER DIAMETERS ARE GREATER THAN 10(MICRO)M, THEREFORE CONSIDERED NON-RESPIRABLE.

FIBERGLASS:
IARC: 3

LD50/LC50: VALUES ARE NOT APPROPRIATE OR AVAILABLE.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE:
RESIN BONDED MATERIALS DEMONSTRATE SIMILAR DEGRADATION RATES AS PHENOLIC PLASTICS.
VITRIFIED PRODUCTS DO NOT APPRECIABLY DECAY.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
USE STANDARD LANDFILL METHODS CONSISTENT WITH APPLICABLE FEDERAL, STATE, PROVINCIAL AND LOCAL LAWS.
PRODUCTS WITH LISTED FLOURIDES MAY HAVE SLIGHTLY SOLUBLE FLOURIDE SWARF.

RECYCLING PROGRAM:
THE COMPANY HAS DEVELOPED A GRINDING WHEEL RECYCLING PROGRAM. IF YOU ARE INTERESTED IN RETURNING YOUR STUBS, INFORMATION CAN BE OBTAINED BY DIALING CUSTOMER SERVICE.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS: N/A

205-D2

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION:

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MDL	
ALUMINUM OXIDE, NON-FIBROUS		MG/M3	15.0000	10.0000	10.0000
C PHENOL FORMALDEHYDE RESIN	PPM	0.0000	0.0000	0.0000	
F GLASS		FBR/CC	1.0000	0.0000	0.0000
IRON DISULFIDE	MG/M3	10.0000	10.0000	10.0000	
SULFATES & SULFIDES		MG/M3	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS:

CA PROP 65: NOT APPLICABLE

TSCA:
SECTION 8(B) - INVENTORY STATUS:
ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER THE REGULATIONS OF THE TOXIC SUBSTANCE CONTROL ACT.

DOMESTIC SUBSTANCE LIST:
ALL COMPONENTS OF THIS PRODUCT ARE FOUND ON THE DOMESTIC SUBSTANCE LIST OF THE COUNTRY OF CANADA.

SECTION 16. OTHER INFORMATION

DISCLAIMER:
THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE TAKEN FROM SOURCES BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF; HOWEVER, THE COMPANY MAKES NO WARRANTY WITH RESPECT TO THE ACCURACY OF THE INFORMATION OR THE SUITABILITY OF THE RECOMMENDATIONS, AND ASSUMES NO LIABILITY TO ANY USER THEREOF.

KEY TO ABBREVIATIONS:
EQ=EQUAL
LT=LESS THAN
GT=GREATER THAN
AP=APPROXIMATELY
TR=TRACE
ND=NO DATA AVAILABLE

205-02

MATERIAL SAFETY DATA SHEET

DATE PRINTED: MAR 07, 2001
MSDS NO. ALRESIN001 OUTBOUND
Aluminum Oxide Resin Grinding Wheel

Norton Company

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Aluminum Oxide Resin Grinding Wheel
TRADE NAME
Alundum wheel
MANUFACTURER(4)
Norton Company, 1 New Bond St.
Worcester, MA, 01615
(508) 795-5000
REVISION DATE
11/13/2000
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	90.000- 95.000	1344-28-1
Cured PhenolFormaldehyde Resin	3.000- 6.000	9003-35-4
Fiberglass	1.000- 3.000	65997-17-3
Iron Disulfide	1.000- 3.000	12068-85-8

OTHER
Not Applicable

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS
Chronic: May affect breathing capacity.
For products containing phneol/formaldehyde resin, dust generated from intended use may contain trace amounts of phenol and formaldehyde which under excessive exposure may cause skin sensitization and airway obstruction.
For products containing inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone density.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical

assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Recommend using local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.
For products containing Phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.
For prodcuts containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Not Applicable
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Resin bonded materials demonstrate similar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

	EXPOSURE LIMITS/REGULATORY INFORMATION			
SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000
Fiberglass	FBR/CC	1.0000	0.0000	0.0000
Iron Disulfide	MG/M3	10.0000	10.0000	10.0000

LEGEND:
EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable

TSCA
Section 8(b) - Inventory Status
All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately	TR=TRace	ND=No Data available

=

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

MATERIAL SAFETY DATA SHEET
AMAZ ALL PURPOSE CLEANER
(Ready to use)

AMAZ
ALL PURPOSE CLEANER
(Ready to use)

HAZARD RATINGS NFPA HMIS DATA		
HEALTH	1	0= MINIMAL 1= SLIGHT
FIRE	0	2=MODERATE 3=HIGH
REACTIVITY	0	4=EXTREME

SECTION I

MANUFACTURED FOR:	GEIL ENTERPRISES, INC.
ADDRESS:	600 WEST LOCUST AVE., STE 102 FRESNO, CA 93650-1094
EMERGENCY PHONE NUMBER:	800-552-3787 (CERTS) CHEMICAL EMERGENCY ONLY
PHONE NUMBER FOR INFORMATION:	559-495-3000
DATE REVISED:	February 20, 2009
NAME OF PREPARER:	SALIENT CORPORATION CLIFFORD M. CANTRELL

SECTION II HAZARDOUS INGREDIENTS/INFORMATION

INGREDIENT	CAS NO.	OSHA PEL	ACIGH TLV	OTHER SKIN - STEL	% OR RNG	S K
None requiring reporting under O.S.H.A. Regulations as contained in 29 CFR 1910.1200						

NOTE: AN "" UNDER 'SKIN' INDICATES THAT OSHA REQUIRES SKIN PROTECTION TO PREVENT OR REDUCE EXPOSURE TO THIS INGREDIENT. DOES NOT CONTAIN ANY SARA TITLE III, SECTION 313 SUBSTANCE. SEE SECTION IX FOR REPORTING REQUIREMENTS.

EPA HAZARD CATEGORIES
ACUTE HEALTH - CHRONIC HEALTH

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point:	212°F	Specific Gravity (H2O=1)	0.96 - 1.06
Vapor Pressure (mm Hg)	17	Melting Point	> 32°F
Vapor Density (Air=1)	4.1	Evaporation Rate (Water=1)	1
Solubility in Water:	COMPLETE		
Appearance and odor:	CLEAR GREEN LIQUID WITH LEMON ODOR.		
VOC CONTENT:	2 grams/liter		

SECTION IV- FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used):	None (TCC) Flammable Limits: LEL: N/A UEL: N/A
Extinguishing Media:	APPROPRIATE TO SURROUNDING FIRE
Special Fire Fighting Procedures:	APPROPRIATE TO SURROUNDING FIRE
Unusual Fire and Explosion Hazards:	NONE

SECTION V- REACTIVITY DATA

Stability:	Stable
Incompatibility (Materials to Avoid):	Do not mix with acids or oxidizing agents.
Hazardous Decomposition or Byproducts:	Heat and carbon dioxide.
Hazardous Polymerization:	Will Not Occur

SECTION VI- HEALTH HAZARD DATA

MATERIAL SAFETY DATA SHEET
AMAZ ALL PURPOSE CLEANER
(Ready to use)

Route(s) of Entry:	Inhalation? Yes Skin? Yes Ingestion? Yes Eyes? Yes
Health Hazards (Acute and Chronic):	None known.
Carcinogenicity:	
NTP?	Ingredients not listed.
IARC Monographs?	Ingredients not listed.
OSHA Regulated?	Ingredients not listed.
Signs and Symptoms of Exposure:	
INHALATION:	Possible irritation of respiratory system for sensitive individuals.
INGESTION:	Low toxicity. Swallowing large quantities (more than 8 ounces) may cause diarrhea, vomiting.
SKIN CONTACT:	May mildly irritate sensitive individuals.
EYE CONTACT:	Possible Irritation.
Medical Conditions Generally Aggravated by Exposure:	Unknown
Emergency and First Aid Procedures:	
INHALATION:	In the rare case when a person experiences breathing difficulty while using this product, discontinue use and get to fresh air. If that occures it may indicate a serious underlying respiration problem that shoukld be treated by a physician.
EYE CONTACT:	Immediately flush eyes in clear running water. If irritation results and persists, GET MEDICAL ATTENTION.
SKIN CONTACT:	Wash skin with soap and water. If clothing is contaminated, wash before reuse.
INGESTION:	Rinse mouth and dilute stomach contents with 3-4 glasses of water or preferably milk. Do not administer fluids to an unconscious person. Induce vomiting. CONSULT A PHYSICIAN.
OTHER INFORMATION:	Not known to be mutagenic or carcinogenic.

VII- PRECAUTIONS FOR SAFE HANDLING AND USE

SMALL SPILLS:	FLUSH TO SANITARY SEWER.
LARGE SPILLS:	DIKE AREA AND TRANSFER SPILL TO CLOSED CONTAINERS FOR DISPOSAL IN AN APPROVED FACILITY IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. RINSE SPILL AREA WITH WATER. UNCONTAMINATED PRODUCT DOES NOT MEET DEFINATION OF CERCLA HAZARDOUS WASTE.
Waste Disposal Method:	DISPOSE OF WASTE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
Precautions to Be Taken in Handling and Storing:	KEEP CONTAINER CLOSED WHEN NOT IN USE.
Other Precautions:	KEEP THIS AND ALL CHEMICALS OUT OF REACH OF CHILDRE

SECTION VIII- Control Measures

Respiratory Protection (Specify Type):	Not required for normal use. If used in unventilated area and breathing becomes difficult, a dust/mist mask may help. However, ventilation is the preffered method of control.
Ventilation:	Local exhaust is usuallysufficient.
Protective Gloves:	Rubber or neoprene recommended to reduce skin contact when using any cleaning chemical.
Eye Protection:	Chemical goggles recommended when using any chemical.
Other Protective Clothing or Equipment:	As required to reduce or prevent skin contact.
Work/Hygienic Practices:	Wash product from clothes and skin. Use good housekeeping practices.

SECTION IX - Additional Information

ENVIRONMENTAL

BIODEGRADABILITY: BIODEGRADABLE.

WASTE DISPOSAL METHODS: DISPOSE OF LARGE QUANTITIES (Greater than one pound) IN AN AUTHORIZED HAZARDOUS WASTE FACILITY IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. WASTES OF THIS PRODUCT ARE HAZARDOUS BY REASON OF FLAMMABILITY.

ADDITIONAL INFORMATION

EMPTY CONTAINER HANDLING: WARNING! EMPTIED CONTAINER RETAINS PRODUCT RESIDUE. OBSERVE ALL PRECAUTIONS EVEN AFTER CONTAINER IS EMPTIED. KEEP EMPTY CONTAINER CLOSED TIGHTLY.

SARA TITLE III REPORTING REQUIREMENTS

SECTION 302- EXTREMELY HAZARDOUS SUBSTANCES	REPORTING NOT REQUIRED
SECTION 304- HAZARDOUS RELEASES	REPORTING NOT REQUIRED

MATERIAL SAFETY DATA SHEET
AMAZ ALL PURPOSE CLEANER
(Ready to use)

SECTION 311- COMMUNITY RIGHT TO KNOW (R-T-K)	REPORTING REQUIRED FOR INVENTORY ABOVE TPQ.
SECTION 312- R-T-K INVENTORY DATA	REPORTING REQUIRED FOR INVENTORY ABOVE TPQ.
SECTION 313- EMISSIONS AND RELEASE	REPORTING MAY BE REQUIRED FOR INDUSTRIAL USERS (S.I.C. CODE 20 - 39)
CERCLA	SAME AS SECTION 304

REFERENCES

TOXIC SUBSTANCE CONTROL ACT LIST (TSCA) - INGREDIENTS LISTED.

PERMISSIBLE EXPOSURE REFERENCES:

REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
TITLE 29 CODE OF FEDERAL REGULATIONS
NATIONAL TOXICOLOGY PROGRAM (NTP) REPORT ON CARCINOGENS
INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPHS

REGULATORY STANDARDS:

DOT TITLE 49 CODE OF FEDERAL REGULATIONS 172.101
SARA TITLE III
NUCLEAR REGULATORY AGENCY

DOT SHIPPING NAME: CHEMICAL, NOS (NOT DOT/IMO HAZARDOUS)

DOT HAZARD LABEL: NONE

THIS DOCUMENT COMPLIES WITH OSHA FORM 174 AS REQUIRED UNDER 29 CFR 1910.1200.

AMAZ Hard Water Stain Remover and Polishing Compound
MATERIAL SAFETY DATA SHEET
==========
General Information
==========
Company's Name: PACIFIC SUN MAKERS,Inc.
Company's Street: 1771 Mt Jefferson Ave
Company's City: Woodburn
Company's State: Or
Company's Country: US
Company's Zip Code: 97071
Company's Emerg Ph #: 916-921-6861
Company's Info Ph #: 800-921-6861
Date MSDS Prepared: 17 July 03
Preparer's Name: Roger Curry
Preparer's Company: Nevada Ecotec
Preparer's City: Reno
Preparer's State: NV
HMIS Information: Health: 1 Flammability: 0 Reactive: 1 Protection: A
Unit Of Issue: Various
Net Unit Weight: Various
==========
Ingredients/Identity Information
==========
Proprietary: NO
Ingredient: SILICA,CRYSTALLINE QUARTZ
Ingredient Sequence Number: 01
Percent: 60-70
NIOSH (RTECS) Number: VV7330000
CAS Number: 1408-60-7
OSHA PEL: 8 hr. time-weighted average limit as stated in 29 CFR 1910.1000 Table Z-1-A (for dry powder only))
ACGIH TLV: 0.1 MG/M3 (Respirable Crystalline Quartz)
TSCA No. Crystalline Silica appears on the EPA TSA inventory under the CAS No. 1408-60-7
OSHA Carcinogen: Crystalline Silica not listed
WHIMS Classification: D-2A
Other Recommended Limit: None Specified

Proprietary: NO
Ingredient: Naptha ,Petroleum ,Heavy Alkylate
Ingredient Sequence Number: 02
Percent: 5-10
NIOSH (RTECS) Number: Unavailable
CAS Number: 84741-65-7
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
TSCA: This material is listed on the EPA/TSCA Inventory of Chemical Substances
Other Recommended Limit: None Specified

Proprietary: NO
Ingredient: 9-Octadecenoic Acid
Ingredient Sequence Number: 03
Percent: 5-10

NIOSH (RTECS) Number: Unavailable

CAS Number: 112-80-1
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
Other Recommended Limit: None Specified

Proprietary: NO
Ingredient: Triethanolamine
Ingredient Sequence Number: 04
Percent: 5-10
NIOSH (RTECS) Number: Unavaliable
CAS Number: 000102-71-6
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABILSHED
WHIMS Classification: D-2B
Other Recommended Limit: None Specified

Physical/Chemical Characteristics

Appearance And Odor: GREEN PASTE WITH MILD LEMON ODOR
Boiling Point: 215°F,102°C
Melting Point: less than 40°F
Vapor Pressure (MM Hg/70 F): ~17.0 @ 20°C
Vapor Density (Air=1): N/A
Specific Gravity: Unavailable
Evaporation Rate And Ref: >1 (BUTYL ACETATE)
Solubility In Water: Dispersable
Percent Volatiles By Volume: 7-13 VOC: 12%

Fire and Explosion Hazard Data

Flash Point: >200°F
Lower Explosive Limit: N/A
Upper Explosive Limit: N/A
Extinguishing Media: CO_2, FOAM, DRY CHEMICALS.
Special Fire Fighting Proc: USE NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE EQUIPMENT.
Unusual Fire And Expl Hazrds: NONE.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): NONE SPECIFIED
Materials To Avoid: DO NOT MIX WITH OTHER CHEMICALS
Hazardous Decomp Products: CO, WITH INCOMPLETE COMBUSTION.
Hazardous Poly Occur: NO
Conditions To Avoid(polymerization) : Not Relevant

Health Hazard Data

Route Of Entry - Inhalation: NO
Route Of Entry - Skin: NO
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ACTUE: DEFATS SKIN; MAY IRRITATE EYES.

PROLONGED EYE CONTACT MAY CAUSE EYE DAMAGE. CHRONIC: SAME AS ACUTE.
Carcinogenicity - NTP: YES (Silica Powder)
Carcinogenicity - IARC: YES (Silica Powder)
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: SILICA,CRYSTALLINE-QUARTZ:IARC MONOGRAPHS,SUPP.VOL 7,Pg 341
Signs/Symptoms Of Overexp: SEE HEALTH HAZARDOUS
Med Cond Aggravated By Exp: SENSITIVE SKIN AND EYES.
Emergency/First Aid Proc: INHALATION: REMOVE TO FRESH AIR. EYES: FLUSH THOROUGHLY WITH FRESH WATER, FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. SKIN: FLUSH WITH FRESH WATER, WASH WITH SOAP AND WATER REMOVE CONTAMINATED CLOTHES AND SHOES. INGESTION: GIVE WATER, DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: WIPE UP SMALL AMOUNTS OR FLUSH TO DRAIN; COLLECT AND RETURN LARGE AMOUNTS TO CONTAINER.
Neutralizing Agent: NONE SPECIFIED
Waste Disposal Method: DISPOSE OF AS A SANITARY WASTE.DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL,STATE&LOCAL REGULATIONS.
Precautions-Handling/Storing: KEEP CONTAINER CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN.
Other Precautions: DOT CLASS: NOT REGULATED.

Control Measures

Respiratory Protection: NONE. NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN.
Ventilation: MECHANICAL NORMAL AIR DILUTION.
Protective Gloves: RUBBER OR CHEMICAL RESISTENT.
Eye Protection: ANSI APPROVED CHEM WORKERS GOGGLES.
Other Protective Equipment: EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET ANSI DESIGN CRITERIA (FP N).
Work Hygienic Practices: KEEP FOOD AWAY.WASH HANDS AND FACE BEFORE EATING.
Suppl. Safety & Health Data: WASTE DISP METH: DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

Transportation Data

Additional Information

Biodegradablility: Surfactants and wetting agents are biodegradable.May be disposed of as a sanity waste ,check with local authorities.

Disposal Data

See Above: Control Measures and Safe Handling Precautions

Label Data

Label Required: YES
Label Status: G
Common Name: Mildly Alkaline, Abrasive Compound
Chronic Hazard: NO
Signal Word: CAUTION ! KEEP OUT OF THE REACH OF CHLIDREN
Acute Health Slight: X
Contact Hazard-Slight: X
Fire Hazard-Slight: X
Reactivity Hazard-None: X
Special Hazard Precautions: ACTUE: DEFATS SKIN; MAY IRRITATE EYES.
PROLONGED EYE CONTACT MAY CAUSE EYE DAMAGE. CHRONIC: SAME AS ACUTE.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: AMAZ HARD WATER STAIN REMOVER
Label City: Sacramento
Label State: CA
Label Zip Code: 95815
Label Country: US
Label Emergency Number: 916-921-6861

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Disclaimer

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AMBRANDS®

AMDRO PRO FIRE ANT KILLER

MATERIAL SAFETY DATA SHEET
AMDRO PRO Fire Ant Bait

2030 Powers Ferry Road,
Suite 500
Atlanta, GA 30339

EMERGENCY TELEPHONE: 800-265-0761 (U.S.A.)
800-424-9300 (CHEMTREC)

MSDS No.
CAS NO. 067485-29-4
DATE: December 9, 2005
REVISED:
EPA REG NO. 241-322-73342

SECTION I

Trade Name: AMDRO® PRO Fire Ant Bait

Chemical Name: Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone [3-4-(trifluoromethyl) phenyl]- 1-[2-[4-(trifluoromethyl)phenyl]ethenyl]-2- propenylidene] hydrazone

Synonyms: Hydramethylnon, AC 217,300 Formula: C25 H24 F6 N4

Chemical Family: Amidinohydrazone Mol Wt: 494.5

SECTION II - INGREDIENTS

COMPONENT	CAS NO.	%	PEL/TLV – SOURCE
Hydramethylnon*	67485-29-4	0.73	1.4 mg/m3 TWA manufacturer recommended
Inerts	N/A	99.27	None established

SARA Title III Section 313: * Listed

SECTION III – PHYSICAL DATA

BOILING/MELTING POINT @ 760mm Hg: 185 - 190°C pH: N/D

VAPOR PRESSURE mmHg @ 20° C: 6 X 10 (-8) @ 25°C

SPECIFIC GRAVITY OR BULK DENSITY: 15 – 24 lb/cu. ft.

SOLUBILITY IN WATER: 0.88 ppm @ 25°C (technical)

APPEARANCE: Mustard color granules ODOR: Vegetable oil INTENSITY: Mild

SECTION IV – FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD): >220° F AUTOIGNITION TEMP: About 404°C

FLAMMABILITY LIMITS IN AIR (% BY VOL): LOWER: N/D UPPER: N/D

NFPA 704 HAZARD CODES
HEALTH: N/R FLAMMABLE: N/R INSTABILITY: N/R OTHER: N/R
NFPA 30 STORAGE CLASSIFICATION: N/R

EXTINGUISHING MEDIUM	**Use water fog, foam, CO(2), or dry chemical extinguishing media.**
SPECIAL FIREFIGHTING PROCEDURES	**Firefighters should be equipped with self-contained breathing apparatus and turnout gear.**
UNUSUAL FIRE EXPLOSION HAZARDS	**None known.** **Organic dusts may form an explosive dust/air mixture. Class St-1 explosive dust.**

SELECT ACRONYM KEY

N/A – Not available; N/D – Not determined; N/R - Not rated; N/E – Not established

AMBRANDS®

AMDRO PRO FIRE ANT KILLER

SECTION V – HEALTH DATA

TOXICOLOGICAL TEST DATA:

Data for the formulated product:
Rat, Oral LD50 (combined sexes) > 5000 mg/kg
Rabbit, Dermal LD50 (combined sexes) > 2000 mg/kg
Rat, Inhalation LC50 (4 hr) Not available
Rat, Inhalation LC50 (1 hr, calculated) Not available
Rabbit, Eye Irritation – Not irritating
Rabbit, Skin Irritation – Mildly irritating.
Guinea pig, Dermal Sensitizer – Not a sensitizer
Data for the technical material:
In a two generation rat reproduction study, male reproductive fertility was depressed at 75 ppm due to degenerative testicular changes but this effect was not seen at 50 ppm.

OSHA, NTP, OR IARC Carcinogen: Not Listed.

EFFECTS OF OVEREXPOSURE:

See Product Label and Directions For Use for additional precautionary statements.
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION: KEEP OUT OF REACH OF CHILDREN
MAY BE HARMFUL IF SWALLOWED. Avoid contact with skin, eyes, and clothing.

Existing medical conditions aggravated by this product: None known.

FIRST AID PROCEDURES:

If swallowed:	Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.
If on skin:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice,
If inhaled:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Note to physician:	There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.
Note:	Have the product container or label with you when calling a poison control center or doctor or going for treatment.

SECTION VI – REACTIVITY DATA

STABILITY: Stable. See Section X – Additional Information
CONDITIONS TO AVOID: Store in original container in cool, dry, well ventilated place away from ignition sources, heat or flame.

CHEMICAL INCOMPATIBILITY: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen, HF

HAZARDOUS POLYMERIZATION: Does not occur.
CONDITIONS TO AVOID: Does not polymerize.

CORROSIVE TO METAL: No **OXIDIZER**: No

AMBRANDS®

AMDRO® PRO FIRE ANT KILLER

SECTION VII – PERSONAL PROTECTION

PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions For Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory Protection:
Wear a NIOSH approved cartridge respirator approved for pesticides if the TWA of 1.4 mg/m3 is exceeded.

Respiratory Protection:
Supplied air respirators should be worn if large quantities of mist/dust (10 x the TWA) are generated or prolonged exposure possible.

Eye Protection:
Chemical goggles when respirator does not provide eye protection.

Protective Clothing:
Gloves and protective clothing as necessary to prevent skin contact.

Ventilation:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

SECTION VIII – ENVIRONMENTAL DATA

ENVIRONMENTAL TOXICITY DATA
Hydramethylnon, the active ingredient, is very toxic to fish and aquatic invertebrates.

SARA 311/312 REPORTING
FIRE: N PRESSURE: N REACTIVITY: N ACUTE: Y CHRONIC: Y TPQ(lbs): N/R

SPILL AND LEAK PROCEDURES:
In case of large scale spillage of this product, avoid contact, isolate area and keep out animals and unprotected persons. Call CHEMTREC (800-424-9300) or AMDRO (800-265-0761). For a small spill, wear personal protective equipment as specified on the label.
FOR A SOLID SPILL: Sweep solid into a drum for re-use or disposal. Remove personal protective equipment and decontaminate it prior to re-use.
HAZARDOUS SUBSTANCE SUPERFUND: No RQ (lbs): None

WASTE DISPOSAL METHOD:
Pesticide wastes are acutely hazardous. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

HAZARDOUS WASTE 40CFR261: No HAZARDOUS WASTE NUMBER: None

CONTAINER DISPOSAL:
See above "WASTE DISPOSAL METHOD".

SECTION IX – SHIPPING DATA – PACKAGE AND BULK

D.O.T. PROPER SHIPPING NAME (49CFR172.101-102):
None

HAZARDOUS SUBSTANCE (49CFR CERCLA LIST): None
RQ(lbs): None

D.O.T. HAZARD CLASSIFICATION (CFR 172.101-102):
PRIMARY
None

SECONDARY

D.O.T. LABELS REQUIRED (49CFR 172.101-102):	D.O.T. PLACARDS REQUIRED (CFR172.504):	POISON CONSTITUENT (49CFR172.203(K):
None	None	None

BILL OF LADING DESCRIPTION
Insecticides, agricultural, NOIBN
This product is not regulated by the Department of Transportation.

CC NO.: Not Applicable **UN/NA CODE:**

AMBRANDS®

AMDRO PRO FIRE ANT KILLER

SECTION X – ADDITIONAL INFORMATION

Amdro® Pro Fire Ant Bait

HANDLING AND STORAGE INFORMATION

Store in a cool, dry, secure place and KEEP THE CONTAINER TIGHTLY CLOSED.
Amdro® Pro Fire Ant Bait is formulated in an oil bait that functions as an attractant to ants.
Prolonged exposure to air may turn the oil rancid and reduce the attractiveness to ants.
USE PRODUCT WITHIN 3 MONTHS OF OPENING CONTAINER.
This product may be an attractant to pets and rodents.
Keep pets away from treated areas for at least 24 hours after application.

EPA Reg. No. 241-322-73342

KEEP OUT OF REACH OF CHILDREN.

CAUTION

Complete Label and Directions For Use are attached to the product.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

AMBRANDS
2030 Powers Ferry Road, Suite 500
Atlanta, GA 30339
770-333-8999

DISCLAIMER

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Material Safety Data Sheet

Date of issue 9 August 2016
Version 22

1 . Product and company identification

Product name : AMERCOAT 428PC LOW ODOR CURE

Code : AT428L-B/05

Manufacturer / Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : 888-977-4762

2 . Hazards identification

Emergency overview : DANGER!

CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. SANDING AND GRINDING DUSTS MAY BE HARMFUL IF INHALED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Do not breathe vapor or mist. Do not swallow. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Corrosive to the respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : May be harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Skin : Corrosive to the skin. Causes burns. Harmful in contact with skin. May cause an allergic skin reaction.

Eyes : Corrosive to eyes. Causes burns.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. **1-component mixtures:** formaldehyde is released during curing. Formaldehyde may cause irreversible effects, is irritating to the mucous membranes and may cause skin sensitization. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications.

Medical conditions aggravated by over-exposure : Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	% (w/w)
crystalline silica, respirable powder (<10 microns)	14808-60-7	30 - 60
benzyl alcohol	100-51-6	7 - 13
4,4'-methylenebis(cyclohexylamine)	1761-71-3	7 - 13
4-nonylphenol, branched	84852-15-3	7 - 13
Formaldehyde, polymer with benzenamine, hydrogenated	135108-88-2	1 - 5
Phenol, 2-nonyl-, branched	91672-41-2	0.5 - 1.5
4-tert-butylphenol	98-54-4	0.5 - 1.5
nonylphenol	25154-52-3	0.1 - 1
bis[(dimethylamino)methyl]phenol	71074-89-0	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
metal oxide/oxides
Formaldehyde.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Vapors are heavier than air and may spread along floors. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120°F / 49°C.

8 . Exposure controls/personal protection

Name	Result	ACGIH	Ontario	Mexico	PPG
crystalline silica, respirable powder (<10 microns)	TWA	0.025 mg/m³ R	0.1 mg/m³ R	0.025 mg/m³ R	Not established
benzyl alcohol	TWA STEL	Not established Not established	Not established Not established	Not established Not established	10 ppm 50 ppm

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust

8 . Exposure controls/personal protection

IPEL = Internal Permissible Exposure Limit
R = Respirable
S = Potential skin absorption
TLV = Threshold Limit Value
TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Chemical splash goggles and face shield.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : nitrile, neoprene

Respiratory : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 100°C (212°F)

Explosion limits : Lower: 1.19%
Upper: 11.2%

Material supports combustion. : Yes.

Color : Not available.

Odor : Characteristic.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

9 . Physical and chemical properties

Melting/freezing point : Not available.
Specific gravity : 1.46
Density (lbs / gal) : 12.18
Vapor pressure : 0.04 kPa (0.3 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 19% (v/v), 13.52% (w/w)
Evaporation rate : 0.03 (butyl acetate = 1)
Solubility : Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 86.48

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : No specific data.
Materials to avoid : Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
Hazardous decomposition products : Formaldehyde.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl alcohol	LD50 Oral	Rat	1.23 g/kg	-
	LD50 Dermal	Rabbit	2000 mg/kg	-
4,4'-methylenebis(cyclohexylamine)	LD50 Oral	Rat	0.625 g/kg	-
	LD50 Dermal	Rabbit	2.11 g/kg	-
4-nonylphenol, branched	LD50 Oral	Rat	0.58 g/kg	-
	LD50 Dermal	Rabbit	2.14 g/kg	-
Formaldehyde, polymer with benzenamine, hydrogenated	LD50 Dermal	Rabbit	>1000 mg/kg	-
4-tert-butylphenol	LD50 Oral	Rat	2.95 g/kg	-
	LD50 Dermal	Rabbit	2.29 g/kg	-
nonylphenol	LD50 Oral	Rat	580 mg/kg	-
	LD50 Dermal	Rabbit	2.14 g/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: blood, kidneys, liver, heart, spleen, brain, upper respiratory tract, skin, eyes, bone marrow, central nervous system (CNS).
Contains material which may cause damage to the following organs: lungs, the reproductive system, gastrointestinal tract, ovary, testes, thyroid.

Carcinogenicity

11 . Toxicological information

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Classification

Product/ingredient name	ACGIH	IARC	NTP
crystalline silica, respirable powder (<10 microns)	A2	1	Known to be a human carcinogen.

Carcinogen Classification code: **ACGIH: A1, A2, A3, A4, A5**
IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
Not listed or regulated as a carcinogen: -

Teratogenicity

Teratogenicity : Contains material which may cause birth defects, based on animal data.

Reproductive toxicity

Developmental effects : Contains material which may cause developmental abnormalities, based on animal data.

Fertility effects : Contains material which may impair male fertility, based on animal data. Contains material which may impair female fertility, based on animal data.

12 . Ecological information

Environmental effects : Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Phenol, 2-nonyl-, branched	Acute LC50 0.1383 mg/l	Fish - Pimephales promelas	96 hours
nonylphenol	Acute EC50 0.056 mg/L Fresh water	Algae - Green algae - Scenedesmus subspicatus	72 hours
	Chronic NOEC 1 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	21 days

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	TDG	Mexico	IMDG
UN number	3066	3066	3066
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	8	8	8
Packing group	II	II	II
Environmental hazards	Yes.	No.	Yes.
Marine pollutant substances	(4,4'-methylenebis (cyclohexylamine), 4-nonylphenol, branched)	Not applicable.	(4-nonylphenol, branched, nonylphenol)

Additional information

TDG : The marine pollutant mark is not required when transported by road or rail.

Mexico : None identified.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).

15 . Regulatory information

Canada inventory (DSL) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class E: Corrosive liquid. Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability : 1 **Health** : 3 **Reactivity** : 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 1 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

16 . Other information

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 1 **Instability** : 0

Date of previous issue : **3/18/2016**

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 11 September 2016
Version 7.01

Section 1. Identification

Product name : AMERCOAT 428PCLO RAILCAR BLUE RESIN
Product code : UC87113/55
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications, Used by spraying.
Use of the substance/ mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 41.6%

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : AMERCOAT 428PCLO RAILCAR BLUE RESIN

Ingredient name	%	CAS number
Epoxy resin (MW ≤ 700)	≥20 - ≤50	25068-38-6
crystalline silica, respirable powder (<10 microns)	≥10 - ≤20	14808-60-7
1,4-bis[(2,3-epoxypropoxy)methyl]cyclohexane	≥10 - ≤20	14228-73-0
Formaldehyde, polymer with 1,3-dimethylbenzene	≥5.0 - ≤10	26139-75-3
titanium dioxide	≥5.0 - ≤10	13463-67-7
Amide Mixture	≥1.0 - ≤5.0	Not available.
2,3-epoxypropyl neodecanoate	<1.0	26761-45-5

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Epoxy resin (MW ≤ 700)	None.
crystalline silica, respirable powder (<10 microns)	**OSHA PEL Z3 (United States, 2/2013).** TWA: 10 mg/m³ / (%SiO2+2) 8 hours. Form: Respirable TWA: 250 mppcf / (%SiO2+5) 8 hours. Form: Respirable **ACGIH TLV (United States, 3/2015).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL Z3 (United States).** TWA: 30 mg/m³ Form: Total dust
1,4-bis[(2,3-epoxypropoxy)methyl]cyclohexane	None.
Formaldehyde, polymer with 1,3-dimethylbenzene	None.
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours.
Amide Mixture	**ACGIH TLV (United States).** TWA: 3 mg/m³ Form: Respirable TWA: 10 mg/m³ Form: Total dust **OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable TWA: 10 mg/m³ Form: Total dust
2,3-epoxypropyl neodecanoate	None.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 100°C (212°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Section 9. Physical and chemical properties

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 1%

Evaporation rate : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.34

Density (lbs / gal) : 11.18

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 0% (v/v), 0.011% (w/w)

% Solid. (w/w) : 99.989

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	>2 g/kg	-
titanium dioxide	LD50 Oral	Rat	>11 g/kg	-
Amide Mixture	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
2,3-epoxypropyl neodecanoate	LD50 Dermal	Rat	3800 mg/kg	-
	LD50 Oral	Rat	9.6 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
crystalline silica, respirable powder (<10 microns)	-	1	Known to be a human carcinogen.
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
1,4-bis[(2,3-epoxypropoxy)methyl]cyclohexane	Category 3
Formaldehyde, polymer with 1,3-dimethylbenzene	Category 3

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category
crystalline silica, respirable powder (<10 microns)	Category 1

Target organs : Contains material which causes damage to the following organs: liver, spleen, skin, bone marrow.
Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, eyes.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Section 11. Toxicological information

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
Amide Mixture	Acute LC50 >1000 mg/l	Fish	96 hours
2,3-epoxypropyl neodecanoate	Acute EC50 3.5 mg/l	Algae	96 hours
	Acute EC50 4.8 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.6 mg/l	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,3-epoxypropyl neodecanoate	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2,3-epoxypropyl neodecanoate	4.4	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	UN3082	UN3082
UN proper shipping name	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin (MW ≤ 700))	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin (MW ≤ 700))
Transport hazard class (es)	-	9	9
Packing group	-	III	III
Environmental hazards	No.	Yes.	Yes.
Marine pollutant substances	Not applicable.	(Epoxy resin (MW ≤ 700))	Not applicable.

Additional information

DOT : None identified.

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Epoxy resin (MW ≤ 700)	No.	No.	No.	Yes.	No.
crystalline silica, respirable powder (<10 microns)	No.	No.	No.	No.	Yes.
1,4-bis[(2,3-epoxypropoxy)methyl] cyclohexane	No.	No.	No.	Yes.	No.
Formaldehyde, polymer with 1, 3-dimethylbenzene	No.	No.	No.	Yes.	No.
titanium dioxide	No.	No.	No.	No.	Yes.
Amide Mixture	Yes.	No.	No.	Yes.	No.
2,3-epoxypropyl neodecanoate	No.	No.	No.	Yes.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability :** 1 **Physical hazards :** 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability :** 1 **Instability :** 0

Date of previous issue : 4/23/2016

Section 16. Other information

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 15 November 2016
Version 6

Section 1. Identification

Product name : AMERCOAT 65 THINNER
Product code : AT765
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications, Used by spraying.
Use of the substance/ mixture : Thinner.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (dermal) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), hearing organs, kidneys, liver) - Category 2
ASPIRATION HAZARD - Category 1

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful in contact with skin or if inhaled.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), hearing organs, kidneys, liver)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : AMERCOAT 65 THINNER

Ingredient name	%	CAS number
xylene	≥75 - ≤90	1330-20-7
ethylbenzene	≥10 - ≤16	100-41-4
toluene	<1.0	108-88-3

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
xylene	**ACGIH TLV (United States, 3/2015).** STEL: 651 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 434 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

toluene	TWA: 100 ppm 8 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: polyvinyl alcohol (PVA), Viton®
Not recommended: nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 27.22°C (81°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.83%
Upper: 6.7%

Evaporation rate : 0.63 (butyl acetate = 1)

Vapor pressure : 0.85 kPa (6.4 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 0.87

Density (lbs / gal) : 7.26

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.07 cm^2/s (<7 cSt)

Section 9. Physical and chemical properties

Volatility : 100% (v/v), 100% (w/w)

% Solid. (w/w) : 0

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LC50 Inhalation Vapor	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	636 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-
ethylbenzene	-	2B	-
toluene	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
xylene	Category 3
toluene	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
xylene	Category 2
ethylbenzene	Category 2
toluene	Category 2

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, liver, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), ears, eye, lens or cornea.

Aspiration hazard

Name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
toluene	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4174.2 mg/kg
Dermal	1300.5 mg/kg
Inhalation (gases)	6244.2 ppm
Inhalation (vapors)	11.05 mg/l
Inhalation (dusts and mists)	1.506 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
ethylbenzene	-	-	Readily
toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene	3.16	7.4 to 18.5	low
ethylbenzene	3.15	79.43	low
toluene	2.73	8.32	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	1307	1307	1307
UN proper shipping name	XYLENES	XYLENES	XYLENES
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	118.22	Not applicable.	Not applicable.
RQ substances	(xylene, ethylbenzene)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14. Transport information

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
xylene	Yes.	No.	No.	Yes.	Yes.
ethylbenzene	Yes.	No.	No.	Yes.	Yes.
toluene	Yes.	No.	No.	Yes.	Yes.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
xylene	1330-20-7	60 - 100
ethylbenzene	100-41-4	10 - 30

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability :** 3 **Physical hazards :** 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 3 **Instability** : 0

Date of previous issue : **4/28/2016**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 14 November 2016
Version 16

Section 1. Identification

Product name : AMERLOCK 2 CURE
Product code : 00333621
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications, Used by spraying.
Use of the substance/ mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (respiratory tract) - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), hearing organs, kidneys, liver) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 53.4%

Section 2. Hazards identification

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
Causes damage to organs. (respiratory tract)
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS), hearing organs, kidneys, liver)

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. Do not taste or swallow. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : AMERLOCK 2 CURE

Ingredient name	%	CAS number
Talc , not containing asbestiform fibres	≥20 - ≤50	14807-96-6
barium sulfate	≥20 - ≤50	7727-43-7
xylene	≥10 - ≤12	1330-20-7
4-nonylphenol, branched	≥5.0 - ≤9.1	84852-15-3
Polyaminoamide	≥5.0 - ≤10	68082-29-1
Aliphatic Amine	≥1.0 - <5.0	Not available.
Alkylphenol	≥1.0 - ≤4.7	Not available.
benzyl alcohol	≥1.0 - ≤4.3	100-51-6
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	≥1.0 - ≤3.3	9046-10-0
ethylbenzene	≥0.10 - ≤2.4	100-41-4
Fatty Amine Carbohydrate Complex	≥1.0 - ≤5.0	Not available.
Phenol, 2-nonyl-, branched	<1.0	91672-41-2

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled.

Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Section 4. First aid measures

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Talc , not containing asbestiform fibres	**ACGIH TLV (United States, 3/2015).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. Form: not containing asbestos
barium sulfate	**ACGIH TLV (United States, 3/2015).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
xylene	**ACGIH TLV (United States, 3/2015).** STEL: 651 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 434 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
4-nonylphenol, branched	None.
Polyaminoamide	None.
Aliphatic Amine	None.
Alkylphenol	None.
benzyl alcohol	**IPEL (PPG).** TWA: 10 ppm STEL: 50 ppm
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	None.
ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
Fatty Amine Carbohydrate Complex	None.
Phenol, 2-nonyl-, branched	None.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : nitrile neoprene

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : White to yellowish.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 33.33°C (92°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.93%
Upper: 3.48%

Evaporation rate : 0.71 (butyl acetate = 1)

Vapor pressure : 1.3 kPa (9.6 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.42

Density (lbs / gal) : 11.85

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 30% (v/v), 18.792% (w/w)

% Solid. (w/w) : 81.208

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Section 10. Stability and reactivity

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Vapor	Rat	5000 ppm	4 hours
	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
4-nonylphenol, branched	LD50 Dermal	Rabbit	2.14 g/kg	-
	LD50 Oral	Rat	0.58 g/kg	-
Alkylphenol	LD50 Dermal	Rabbit	2.288 g/kg	-
benzyl alcohol	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	LD50 Dermal	Rabbit	3 g/kg	-
	LD50 Oral	Rat	242 mg/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-
ethylbenzene	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Talc , not containing asbestiform fibres	Category 3
xylene	Category 3
Aliphatic Amine	Category 1
Alkylphenol	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
xylene	Category 2
ethylbenzene	Category 2

Target organs : Contains material which causes damage to the following organs: blood, kidneys, liver, heart, brain, upper respiratory tract, skin, central nervous system (CNS).
Contains material which may cause damage to the following organs: lungs, the nervous system, the reproductive system, gastrointestinal tract, cardiovascular system, ears, eye, lens or cornea.

Aspiration hazard

Name	Result
xylene	ASPIRATION HAZARD - Category 1
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
Fatty Amine Carbohydrate Complex	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Harmful if inhaled.
Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Section 11. Toxicological information

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1363.7 mg/kg
Dermal	2302.9 mg/kg
Inhalation (gases)	11989.5 ppm
Inhalation (vapors)	24.28 mg/l
Inhalation (dusts and mists)	3.311 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
ethylbenzene	Acute LC50 150 to 200 mg/l Fresh water	Fish - Lepomis macrochirus - Young of the year	96 hours
Phenol, 2-nonyl-, branched	Acute LC50 0.017 mg/l	Fish - Pleuronectes americanus	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
benzyl alcohol	-	-	Readily
ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
xylene	3.16	7.4 to 18.5	low
4-nonylphenol, branched	-	251.19	low
benzyl alcohol	1.1	-	low
ethylbenzene	3.15	79.43	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN3469	UN3469	UN3469
UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
Transport hazard class (es)	3 (8)	3 (8)	3 (8)
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(4-nonylphenol, branched)	Not applicable.
Product RQ (lbs)	898.53	Not applicable.	Not applicable.
RQ substances	(xylene, ethylbenzene)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : 107968 lbs / 49017.5 kg [9181.8 gal / 34756.8 L]

Composition/information on ingredients

Name	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
phenol	Yes.	500 / 10000	-	1000	-

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Talc , not containing asbestiform fibres	No.	No.	No.	Yes.	No.
xylene	Yes.	No.	No.	Yes.	Yes.
4-nonylphenol, branched	No.	No.	No.	Yes.	Yes.
Polyaminoamide	No.	No.	No.	Yes.	No.
Aliphatic Amine	No.	No.	No.	Yes.	No.
Alkylphenol	No.	No.	No.	Yes.	No.
benzyl alcohol	No.	No.	No.	Yes.	No.
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	No.	No.	No.	Yes.	No.
ethylbenzene	Yes.	No.	No.	Yes.	Yes.
Phenol, 2-nonyl-, branched	No.	No.	No.	Yes.	Yes.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
xylene	1330-20-7	7 - 13
4-nonylphenol, branched	84852-15-3	5 - 10
ethylbenzene	100-41-4	1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 0

Date of previous issue : **4/30/2016**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 9 September 2016
Version 6.01

Section 1. Identification

Product name : AMERLOCK 2/400 HOPPER GRAY F/S 2649
Product code : AT2-253
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 21.6%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : AMERLOCK 2/400 HOPPER GRAY F/S 2649

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Epoxy resin (MW ≤ 700)	≥50 - ≤75	25068-38-6
Talc , not containing asbestiform fibres	≥20 - ≤50	14807-96-6
titanium dioxide	≥10 - ≤20	13463-67-7
Solvent naphtha (petroleum), light aromatic	≥1.0 - ≤5.0	64742-95-6
1,2,4-trimethylbenzene	≥1.0 - ≤5.0	95-63-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Epoxy resin (MW ≤ 700)	None.
Talc , not containing asbestiform fibres	**ACGIH TLV (United States, 3/2015).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. Form: not containing asbestos
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours.
Solvent naphtha (petroleum), light aromatic	None.
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 45.56°C (114°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%

Evaporation rate : 0.32 (butyl acetate = 1)

Vapor pressure : 0.47 kPa (3.5 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.46

Density (lbs / gal) : 12.18

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 10% (v/v), 6.1% (w/w)

% Solid. (w/w) : 93.9

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	>2 g/kg	-
titanium dioxide	LD50 Oral	Rat	>11 g/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m³	4 hours
	LD50 Oral	Rat	5 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Talc , not containing asbestiform fibres	Category 3
Solvent naphtha (petroleum), light aromatic	Category 3
1,2,4-trimethylbenzene	Category 3

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, lungs, cardiovascular system, upper respiratory tract, skin, eyes.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Section 11. Toxicological information

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (vapors)	225704.4 mg/kg 79771.6 mg/kg 812.5 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
1,2,4-trimethylbenzene	3.63	120.23	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	Yes.	No.
Marine pollutant substances	Not applicable.	(Epoxy resin (MW ≤ 700), Solvent naphtha (petroleum), light aromatic)	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Epoxy resin (MW ≤ 700)	No.	No.	No.	Yes.	No.
Talc , not containing asbestiform fibres	No.	No.	No.	Yes.	No.
titanium dioxide	No.	No.	No.	No.	Yes.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.
1,2,4-trimethylbenzene	Yes.	No.	No.	Yes.	No.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
1,2,4-trimethylbenzene	95-63-6	1 - 5

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Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability :** 2 **Physical hazards :** 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Section 16. Other information

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **4/28/2016**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 12 September 2016
Version 4.01

Section 1. Identification

Product name : AMERLOCK 2/400 LIGHT TINT RESIN
Product code : WOAK2-T2
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.9%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : AMERLOCK 2/400 LIGHT TINT RESIN

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Epoxy resin (MW ≤ 700)	≥50 - ≤75	25068-38-6
Talc , not containing asbestiform fibres	≥10 - ≤20	14807-96-6
titanium dioxide	≥10 - ≤20	13463-67-7
Solvent naphtha (petroleum), light aromatic	≥1.0 - ≤5.0	64742-95-6
1,2,4-trimethylbenzene	≥1.0 - ≤5.0	95-63-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Epoxy resin (MW ≤ 700)	None.
Talc , not containing asbestiform fibres	**ACGIH TLV (United States, 3/2015).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. Form: not containing asbestos
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours.
Solvent naphtha (petroleum), light aromatic	None.
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 55°C (131°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.9%

Evaporation rate : 0.36 (butyl acetate = 1)

Vapor pressure : 1.1 kPa (8 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.46

Density (lbs / gal) : 12.18

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 9% (v/v), 5.13% (w/w)

% Solid. (w/w) : 94.87

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	>2 g/kg	-
titanium dioxide	LD50 Oral	Rat	>11 g/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
1,2,4-trimethylbenzene	LC50 Inhalation Vapor	Rat	18000 mg/m³	4 hours
	LD50 Oral	Rat	5 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Talc , not containing asbestiform fibres	Category 3
Solvent naphtha (petroleum), light aromatic	Category 3
1,2,4-trimethylbenzene	Category 3

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, lungs, cardiovascular system, upper respiratory tract, skin, eyes.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : May cause respiratory irritation.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Section 11. Toxicological information

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (vapors)	294996.8 mg/kg 103467.2 mg/kg 1062 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
1,2,4-trimethylbenzene	3.63	120.23	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	Yes.	No.
Marine pollutant substances	Not applicable.	(Epoxy resin (MW ≤ 700), Solvent naphtha (petroleum), light aromatic)	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Epoxy resin (MW ≤ 700)	No.	No.	No.	Yes.	No.
Talc , not containing asbestiform fibres	No.	No.	No.	Yes.	No.
titanium dioxide	No.	No.	No.	No.	Yes.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.
1,2,4-trimethylbenzene	Yes.	No.	No.	Yes.	No.

SARA 313

	Chemical name	CAS number	Concentration
Supplier notification :	1,2,4-trimethylbenzene	95-63-6	0.5 - 1.5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability :** 2 **Physical hazards :** 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Section 16. Other information

Health : 2 **Flammability** : 2 **Instability** : 0

Date of previous issue : **4/21/2016**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Conforms to ANSI Z400.1-2004 Standard (Canada).

Material Safety Data Sheet

AMSOIL Propylene Glycol Antifreeze/Coolant

Section 1. Product and company identification

Date : 02/15/2015
Version : 5

Product name
AMSOIL Propylene Glycol Antifreeze/Coolant

Code
ANT

Material uses
Antifreeze.

MSDS authored by
AMSOIL INC.

Supplier/Manufacturer
AMSOIL INC.
One AMSOIL Center
Superior, WI 54880
715-392-7101

In case of emergency
CHEMTREC: Within USA and Canada:
1-800-424-9300;
Outside USA and Canada: +1
703-741-5970 (collect calls accepted)

Section 2. Hazards identification

Emergency overview

Color : Yellow.
Physical state : Liquid. [Transparent.]
Odor : Sweet.
Signal word : CAUTION!
Hazard statements : MAY CAUSE EYE AND SKIN IRRITATION.
Precautions : Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin : Moderately irritating to the skin.
Eyes : Moderately irritating to eyes.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No specific data.
Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
irritation
watering
redness

Medical conditions aggravated by overexposure : None known.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Name	CAS number	%
Propane-1,2-diol	57-55-6	60 - 100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : After contact with skin, wash immediately with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Hazardous decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose via a licensed waste disposal contractor.

Large spill : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Avoid contact with used product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Propane-1,2-diol	ON 1/2013 US AIHA 10/2011	- 50 -	10 155 10	- - -	- - -	- - -	- - -	- - -	- - -	- - -	[a] [b]

Form: [a]Aerosol only. [b]Vapour and aerosol.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures	:	Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering measures	:	No special ventilation requirements. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	:	Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Respiratory	:	Not required under normal conditions of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure a MSHA/NIOSH-approved respirator or equivalent is used.
Hands	:	Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
Eyes	:	Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.
Skin	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Recommended: Coveralls.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Section 9. Physical and chemical properties

Physical state	:	Liquid. [Transparent.]	**Odor**	:	Sweet.
Color	:	Yellow.	**pH**	:	8 to 8.6
Flash point	:	Closed cup: 99°C (210.2°F) [Pensky-Martens.]	**Auto-ignition temperature**	:	Not available.
Flammable limits	:	Not available.	**Melting point/ Pour point**	:	-32.222°C (-26°F)
Boiling point	:	107.78°C (226°F)	**Vapor pressure**	:	Not available.
Relative density	:	1.02 to 1.06	**Vapor density**	:	Not available.
Volatility	:	Not available.	**Evaporation rate**	:	Not available.
Viscosity	:	Not available.	**Solubility**	:	Miscible in water.

Section 10. Stability and reactivity

Chemical stability	:	The product is stable.
Conditions to avoid	:	No specific data.
Materials to avoid	:	Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propane-1,2-diol	LD50 Dermal LD50 Oral	Rabbit Rat	20800 mg/kg 20 g/kg	- -

Chronic toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Propane-1,2-diol	Eyes - Mild irritant Skin - Mild irritant Eyes - Mild irritant Skin - Moderate irritant Skin - Moderate irritant Skin - Mild irritant	Rabbit Human Rabbit Child Human Woman	- - - - - -	24 hours 500 mg 168 hours 500 mg 100 mg 96 hours 30% Continuous 72 hours 104 mg Intermittent 96 hours 30%	- - - - - -

Sensitizer

Skin : There is no data available.

Respiratory : There is no data available.

Carcinogenicity

There is no data available.

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Section 12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Propane-1,2-diol	Acute EC50 110 ppm Fresh water Acute LC50 1000 mg/L Marine water Acute LC50 710000 µg/l Fresh water	Daphnia - Daphnia magna Crustaceans - Chaetogammarus marinus - Young Fish - Pimephales promelas	48 hours 48 hours 96 hours

Persistence/degradability

There is no data available.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group Exemption to the above classification may apply.

Section 15. Regulatory information

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16. Other information

Date of issue : 02/15/2015
Date of previous issue : 09/15/2013
Version : 5

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**AP120 Metal Prep**
Product Use/Restriction:	Cleaner Degreaser
Manufacturer Name:	POR-15, Inc.
Address:	P.O. Box 1235 Morristown, NJ 07962-1235
General Phone Number:	800-457-6715
Customer Service Phone Number:	973-887-1999
Technical Product Information:	800-457-6715
Emergency Phone Number:	1-800-457-6715
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
MSDS Format:	ANSI

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Trisodiumhydroxyethylethelenediaminetriacetate	139-89-9	10 - 10 by weight	
Surfactants	127087-87-0	10 - 10 by weight	
Glycol Ether Solvent	111-76-2	10 - 10 by weight	
Silicates	6834-92-0	10 - 10 by weight	
Water	7732-18-5	100 - 100 by weight	

SECTION 3 - HAZARDS IDENTIFICATION

Route of Exposure:	
Potential Health Effects:	Causes eye burns and irritation to skin with prolonged contact.
Eye:	
Skin:	
Inhalation:	
Ingestion:	
Chronic Health Effects:	
Signs/Symptoms:	
Target Organs:	
Aggravation of Pre-Existing Conditions:	

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes occasionally lifting eyelids. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash contaminated clothing thoroughly before re-use.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if necessary.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink water, see physician.
Note to Physicians:	
Other First Aid:	

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties:	
Flash Point:	No data
Flash Point Method:	
Auto Ignition Temperature:	
Lower Flammable/Explosive Limit:	No data
Upper Flammable/Explosive Limit:	No data
Fire Fighting Instructions:	Not flammable
Extinguishing Media:	Use dry chemical, foam, carbon dioxide, water fog or other material suitable for surrounding materials.
Unsuitable Media:	
Protective Equipment:	As in any fire wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Not flammable

Hazardous Combustion Byproducts:	

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	
Environmental Precautions:	
Spill Cleanup Measures:	Contain spills and recover if possible. May be flushed into sewer with water.
Other Precautions:	

SECTION 7 - HANDLING and STORAGE

Handling:	
Storage:	Freezes at about 32 deg F
Work Practices:	
Special Handling Procedures:	
Hygiene Practices:	

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.Use in well-ventilated areas only. Have adequate general exhaust.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166. Contact lenses should not be worn.
Skin Protection Description:	Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered to a minimum. & dbo_Section8.HandProtectionDescription
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, spray painting, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Eyewash and deluge shower should be available.

EXPOSURE GUIDELINES

Notes :

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Flash Point:	No data
Flash Point Method:	
Auto Ignition Temperature:	

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable
Reactivity:	
Hazardous Polymerization:	Will not occur: Yes
Conditions to Avoid:	Do not mix with acid products.
Incompatible Materials:	Zinc, Copper, Brass
Special Decomposition Products:	

SECTION 11 - TOXICOLOGICAL INFORMATION

Surfactants :

RTECS Number:	RB2451000
Carcinogenicity:	Not listed in IARC, NTP, or OSHA

SECTION 12 - ECOLOGICAL INFORMATION

SECTION 13 - DISPOSAL CONSIDERATIONS

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Paint or Paint related material

DOT UN Number:	UN3066
DOT Hazard Class:	8
DOT Packing Group:	III

SECTION 15 - REGULATORY INFORMATION

SECTION 16 - ADDITIONAL INFORMATION

Argon, compressed

Safety Data Sheet P-4563

according to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 10/03/2014 Supersedes: 12/01/2009

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Name	:	Argon, compressed
CAS No	:	7440-37-1
Formula	:	Ar
Other means of identification	:	Shielding gas, argon 40

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergencies: 1-800-645-4633 CHEMTREC: USA 1-800-424-9300, International 001-703-527-3887 (Collect calls accepted, contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Compressed gas H280

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS04

Signal word (GHS-US)	:	Warning
Hazard statements (GHS-US)	:	H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
Precautionary statements (GHS-US)	:	P202 - Do not handle until all safety precautions have been read and understood P271+P403 - Use and store only outdoors or in a well-ventilated place. CGA-PG05 - Use a back flow preventive device in the piping. CGA-PG10 - Use only with equipment rated for cylinder pressure. CGA-PG06 - Close valve after each use and when empty. CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

Other hazards not contributing to the classification	:	Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%
Argon, compressed (Main constituent)	(CAS No) 7440-37-1	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for fire fighters : Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Stop flow of product if safe to do so. Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Argon, compressed (7440-37-1)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

Hand protection : Wear working gloves when handling gas containers.

Eye protection : Wear safety glasses with side shields.

Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

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Thermal hazard protection : None necessary.

Environmental exposure controls : None necessary.

Other information : Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Colorless gas.
Molecular mass	:	40 g/mol
Color	:	Colorless.
Odor	:	No data available
Odor threshold	:	No data available
pH	:	Not applicable.
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	Not applicable.
Melting point	:	-189 °C
Freezing point	:	No data available
Boiling point	:	-185.9 °C
Flash point	:	No data available
Critical temperature	:	-122.4 °C
Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable.
Critical pressure	:	4898 kPa
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Specific gravity / density	:	0.103 lb/ft^3 Vapor density at 70°F (21.1°C)
Relative gas density	:	1.38
Solubility	:	Water: 61 mg/l
Log Pow	:	Not applicable.
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosive limits	:	No data available

9.2. Other information

Gas group	:	Compressed gas
Additional information	:	Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Using this product in welding and cutting may create additional hazards. The arc from electric arc welding may form gaseous reaction products such as carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other decomposition products of arc welding and cutting originate from the volatilization, reaction, and oxidization of the material being worked.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: Not applicable.
Serious eye damage/irritation	:	Not classified pH: Not applicable.
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified No known effects from this product.
Aspiration hazard	:	Not classified Not applicable.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Argon, compressed (7440-37-1)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Argon, compressed (7440-37-1)	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Argon, compressed (7440-37-1)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on ozone layer : None.

Effect on the global warming : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : May be vented to atmosphere in a well ventilated place. Consult supplier for specific recommendations. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

Waste disposal recommendations	:	Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description	:	UN1006 Argon, compressed, 2.2
UN-No.(DOT)	:	UN1006
Proper Shipping Name (DOT)	:	Argon, compressed
Department of Transportation (DOT) Hazard Classes	:	2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT)	:	2.2 - Non-flammable gas

Additional information

Emergency Response Guide (ERG) Number	:	121 (UN1006);120 (UN1951)
Other information	:	No supplementary information available.
Special transport precautions	:	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG)	:	1006
Proper Shipping Name (IMDG)	:	ARGON, COMPRESSED
Class (IMDG)	:	2 - Gases
MFAG-No	:	121

Air transport

UN-No.(IATA)	:	1006
Proper Shipping Name (IATA)	:	ARGON, COMPRESSED
Class (IATA)	:	2
Civil Aeronautics Law	:	Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Argon, compressed (7440-37-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard

15.2. International regulations

CANADA

Argon, compressed (7440-37-1)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas

EU-Regulations

Argon, compressed (7440-37-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Compressed gas H280

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

Argon, compressed (7440-37-1)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

Argon, compressed(7440-37-1)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 10/3/2014 12:00:00 AM

Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases. One such contaminant, chlorinated hydrocarbon vapors from cleaning and degreasing activities, poses a special risk. DO NOT USE ELECTRIC ARCS IN THE PRESENCE OF CHLORINATED HYDROCARBON VAPORS—HIGHLY TOXIC PHOSGENE MAY BE PRODUCED. Metal coatings such as paint, plating, or galvanizing may generate harmful fumes when heated. Residues from cleaning materials may also be harmful. AVOID ARC OPERATIONS ON PARTS WITH PHOSPHATE RESIDUES (ANTI-RUST, CLEANING PREPARATIONS)—HIGHLY TOXIC PHOSPHINE MAY BE PRODUCED.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044).

Full text of H-phrases:

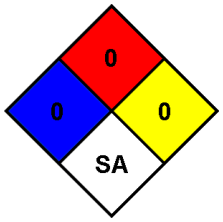
Compressed gas	Gases under pressure Compressed gas
H280	CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA specific hazard : SA - This denotes gases which are simple asphyxiants.



HMIS III Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard

Physical : 3 Serious Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Safety Data Sheet

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

1. Product And Company Identification

Product Name: Armor All ® Cleaning Wipes

Responsible Party: The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810

Information Phone Number: +1 203-205-2900
Emergency Phone Number:
For Medical Emergencies, call 1-866-949-6465 / +1 303-389-1332 (Outside US and Canada)
For Transportation Emergencies, call 1-800-424-9300 (Chemtrec) +1-703-527-3887 for Outside US and Canada (call collect)
SDS Date of Preparation: 01/19/15
Product Use and Uses Advised Against: Auto cleaning product – For consumer use

2. Hazards Identification

Note: This product is a consumer product and is labeled in accordance with the Consumer Product Safety Commission regulations and not OSHA regulations. The requirements for the labeling of consumer products take precedence over OSHA labeling so the actual product label will not contain the OSHA label elements shown below on this SDS.

GHS Classification:

Physical:	**Health:**
Non-Hazardous	Skin Corrosion Category 1 Eye Corrosion Category 1

GHS Label Elements:

DANGER!
Contains Monoethanolamine and Alkyl dimethyl benzyl ammonium chloride (C12-16).

Statements of Hazard	**Prevention**
Causes severe skin burns and eye damage	Do not breathe vapors or mists. Wear protective gloves, protective clothing, and eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information On Ingredients

Component	CAS No.	Amount
Monoethanolamine	141-43-5	<1%
Alkyl dimethyl benzyl ammonium chloride (C12-16)	68424-85-1	<1%

The exact concentrations are a trade secret.

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. Get medical attention.

Skin Contact: If contact occurs, remove contaminated clothing. Immediately wash skin thoroughly with soap and water for at least 15 minutes. Get immediate medical attention. Launder clothing before re-use.

Eye Contact: If contact occurs, immediately flush eyes with large quantities of water for at least 20 minutes, holding the eyelids apart. Get immediate medical attention.

Ingestion: Unlikely rout of exposure due to product form. However, if ingestion occurs, DO NOT induce vomiting. If the victim is fully conscious, have them rinse their mouth with water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

Most Important Symptoms: Classified as corrosive based on pH. Direct contact with wipes may cause eye and skin burns with the possibility of corneal damage. Inhalation of mists may cause respiratory irritation.

Indication of Immediate Medical Attention/Special Treatment: Seek immediate medical attention for eye and skin contact. Ingestion will require immediate medical attention.

5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use any media that is suitable for the surrounding fire. Product may burn after water has evaporated. Cool fire exposed containers with water.

Specific Hazards Arising From the Chemical: Closed containers may rupture if exposed to extreme heat. Burning may release nitrogen oxides, and oxides of carbon.

Special Fire Fighting Procedures: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Keep unprotected personnel away. Wear appropriate protective clothing and equipment as described in Section 8.

Environmental Precautions: Report spill as required by local and national regulations. Prevent entry in storm sewers and waterways.

Methods and Materials for Containment / Cleanup: Collect into a suitable container for disposal. Rinse area with water.

7. Handling and Storage

Precautions for Safe Handling: Prevent eye and skin contact. Avoid breathing mists or vapors. Use only with appropriate protective equipment. Launder contaminated clothing before re-use. Wash thoroughly after handling and before eating, drinking, smoking or using toilet facilities.

Empty containers retain product residue and may be hazardous.

Conditions for Safe Storage, Including Any Incompatibilities:

Protect containers from physical damage. Store in a cool, well-ventilated area away from acids and other incompatible materials.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

CHEMICAL	EXPOSURE LIMIT
Monoethanolamine	3 ppm TWA, 6 ppm STEL ACGIH TLV 3 ppm TWA OSHA PEL
Alkyl dimethyl benzyl ammonium chloride (C12-16)	None Established

Appropriate Engineering Controls: General ventilation should be adequate for all normal use.

Personal Protective Equipment

Respiratory Protection: None under normal use conditions.

Gloves: Impervious gloves such as rubber, neoprene or nitrile are recommended.

Eye Protection: Safety glasses or goggles if eye contact is possible.

Other Protective Equipment/Clothing: Use protective clothing if skin contact is likely.

9. Physical and Chemical Properties

Appearance And Odor: Clear, thin colorless liquid with a citrus, woody, leather odor absorbed into white non-woven wipes.

Physical State: Clear, thin colorless liquid absorbed into white non-woven wipes.	**Odor Threshold:** Not available
pH: ~11.5	**Specific Gravity:** ~ 1.0
Initial Boiling Point/Range: Not determined	**Vapor Pressure:** Not determined
Melting/Freezing Point: Not determined	**Vapor Density:** Not determined
Solubility In Water: Complete (Liquid component)	**Percent Volatile:** >95% of liquid component
Viscosity: Not determined	**Evaporation Rate:** Not determined
Relative Density: Not determined	**VOC Content:** Not available
Coefficient Of Water/Oil Distribution: Not determined	**Autoignition Temp:** Not Determined
Flash Point: Not determined	**Flammability Limits:** LEL: Not applicable UEL: Not applicable
Decomposition Temperature: Not available	**Flammability (solid, gas):** Not applicable

10. Stability and Reactivity

Reactivity: Not normally reactive
Chemical Stability: Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions: Will react with acids and strong oxidizing agents.
Conditions To Avoid: None known.
Incompatible Materials: Acids and strong oxidizing agents.
Hazardous Decomposition Products: May release nitrogen oxides, and oxides of carbon.

11. Toxicological Information

Acute Hazards:

Inhalation: Mist and vapors may cause irritation to the eyes, mucous membranes and upper respiratory tract.

Skin Contact: Causes severe irritation and burns.

Eye Contact: Causes severe eye irritation, and burns. May cause eye damage.

Ingestion: May be harmful if swallowed. Causes mouth, throat, and gastrointestinal irritation and burns.

Chronic Effects: None currently known.

Carcinogenicity Listing: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

Calculated ATE for Product:	ATE Oral: >2,000 mg/kg ATE Skin: >2,000 mg/kg
Monoethanolamine:	LD50 Oral Rat: 1,515 mg/kg LD50 Skin Rabbit: 2,504 mg/kg LC50 Inhalation Rat: >1.3 mg/L/6 hr.

Alkyl dimethyl benzyl ammonium chloride
(C12-16): LD50 Oral Rat: 426 mg/kg

12. Ecological Information

Ecotoxicity:

Monoethanolamine:

LC50 Danio rerio (zebra fish) 3,682 mg/L/96 hr.
EC50 Daphnia magna (Water flea, neonate) 65 mg /L/24 hr.

Persistence and Degradability:
Monoethanolamine: Readily biodegradable

Bio accumulative Potential:
Monoethanolamine: Not expected to exhibit a significant bioaccumulation potential.

Mobility in Soil:
Monoethanolamine: No data available

Other Adverse Effects: No data available

13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations.

14. Transport Information

DOT Hazardous Materials Description: Not Regulated

Canadian TDG Hazardous Materials Description: Not Regulated

IMDG Dangerous Goods Description: Not Regulated

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA Section 103: This product has no RQ. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

Canada:

Canadian WHMIS Classification: Class E – (Corrosive material)

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List.

This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

16. Other Information

NFPA Rating (NFPA 704):	Health: 3	Fire: 0	Instability: 0
HMIS Rating:	Health: 3	Fire: 0	Physical Hazard: 0

REVISION SUMMARY: Update to OSHA HazCom 2012 GHS format. Changes to all sections.

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH

Safety Data Sheet

The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810
Tel. 1-203-205-2900

1. Product And Company Identification

Product Name: ARMOR ALL® Original Protectant

Responsible Party: The Armor All/STP Products Company
44 Old Ridgebury Road
Suite 300
Danbury, CT 06810

Information Phone Number: +1 203-205-2900
Emergency Phone Number:
For Medical Emergencies, call 1-866-949-6465 / +1 303-389-1332 (Outside US and Canada)
For Transportation Emergencies, call 1-800-424-9300 (Chemtrec) +1-703-527-3887 for Outside US and Canada (call collect)
SDS Date Of Preparation: 01/31/2015
Product Use and Uses Advised Against: Automotive maintenance product – For consumer and professional use

2. Hazards Identification

Note: This product is a consumer product and is labeled in accordance with the Consumer Product Safety Commission regulations and not OSHA regulations. The requirements for the labeling of consumer products take precedence over OSHA labeling so the actual product label will differ from the OSHA information shown below.

GHS Classification:

Physical:	**Health:**
Not Hazardous	Not Hazardous

GHS Label Elements: None

Hazards not otherwise specified: None

Percentage of unknown toxicity: N/a

3. Composition/Information On Ingredients

Component	**CAS No.**	**Amount**
Non-Hazardous Ingredients	Mixture	95> - 100%
Mineral Oil	8042-47-5	< 5%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First Aid Measures

Inhalation: If symptoms of exposure develop, remove to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Rinse skin with plenty of water. If skin irritation or redness develops, seek medical attention.

Eye Contact: Flush eyes with plenty of water. If irritation or other symptoms persist, seek medical attention.

Ingestion: Do not induce vomiting unless directed to by doctor or physician. If the victim is fully conscious, have them drink a glass of water. Get medical assistance by calling a doctor or poison center. Never give anything by mouth to a person who is unconscious or drowsy.

Most Important Symptoms: Direct eye contact may cause mild irritation.

Indication of Immediate Medical Attention/Special Treatment: Immediate medical attention should not be required.

5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use dry chemical, carbon dioxide, foam, or water spray.

Specific Hazards Arising from the Chemical: Closed containers may rupture if exposed to extreme heat. Thermal decomposition will generate oxides of carbon and silicon and formaldehyde.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6: Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate protective equipment.

Environmental Precautions: Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

Methods for Containment and Clean-Up: Absorb with an inert material. Collect into a suitable container for disposal. Rinse area with water.

7. Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin and clothing. Wash hands after use. Keep out of the reach of children.

Conditions for Safe Storage, Including any Incompatibilities: No special storage required.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

CHEMICAL	EXPOSURE LIMIT
Non-Hazardous Ingredients	None Established
Mineral Oil	5.0 mg/m3 inhalable TWA ACGIH TLV 5.0 mg/m3 TWA OSHA PEL

Engineering Controls: General ventilation should be adequate for all normal use.

Personal Protective Equipment

Respiratory Protection: None required under normal use conditions.

Gloves: None required under normal use conditions.

Eye Protection: None required for normal use. Avoid eye contact.

Other Protective Equipment/Clothing: None required under normal use conditions.

9. Physical and Chemical Properties

Appearance and Odor: Opaque, white viscous liquid with a slight odor.

Physical State: Liquid	**Odor Threshold:** Not available
pH: 7.5 - 9.0	**Specific Gravity:** ~1
Initial Boiling Point/Range: Not determined	**Vapor Pressure:** Not determined
Melting/Freezing Point: Not determined	**Vapor Density:** Not determined
Solubility In Water: Easily soluble	**Percent Volatile:** >80%
Viscosity: ~ 3,000 cP	**Evaporation Rate:** Not determined
Coefficient Of Water/Oil Distribution: Not determined	**VOC Content:** Not determined
Flash Point: >212°F (>100°C)	**Autoignition Temp:** Not determined
Decomposition Temperature: Not determined	**Flammability Limits:** LEL: Not determined UEL: Not determined
Flammability (solid, gas): Not applicable	

10. Stability and Reactivity

Reactivity: Not normally reactive
Chemical Stability: Stable.
Possibility of Hazardous Reactions: None known
Conditions To Avoid: None known
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Thermal decomposition will generate oxides of carbon, silicon dioxide, and formaldehyde.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

Acute Hazards:

Inhalation: No adverse effects expected from the normal use of this product.

Skin Contact: No adverse effects expected from the normal use of this product.

Eye Contact: Direct contact may cause slight eye irritation.

Ingestion: Swallowing may cause gastrointestinal disturbances.

Chronic Hazards: None currently known.

Carcinogenicity Listing: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH or OSHA.

Acute Toxicity Values:

No data available for product.
Mineral Oil: LD50 Rat oral > 5,000 mg/kg
LD50 Rabbit dermal > 2,000 mg/ kg
LC50 Rat inhalation > 5,000 mg/L/4 hr.

12. Ecological Information

Ecotoxicity:
No ecotoxicity data is currently available for product.
Mineral Oil: NOEL Oncorhynchus mykiss >= 100 mg/L/96 hr.
NOEL Daphnia magna>= 100 mg/L/96 hr.

Persistence and Degradability: No data available

Bio accumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: No data available

13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations. Offer empty containers for recycling.

14. Transport Information

DOT Hazardous Materials Description: Not Regulated

Canadian TDG Hazardous Materials Description: Not Regulated

IMDG Dangerous Goods Description: Not Regulated

15. Regulatory Information

United States:

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA Section 103: This product has no RQ, however, oil spills must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not hazardous

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Canada:

Canadian WHMIS Classification: Not a controlled product.

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian DSL.

This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

16. Other Information

NFPA Rating (NFPA 704):	Health: 0	Fire: 0	Instability: 0
HMIS Rating:	Health: 0	Fire: 0	Physical Hazard: 0

REVISION SUMMARY: January 31, 2015 Update to GHS SDS format and name change: Changes to all sections.

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH

Columbia Steel Casting Co., Inc.
P.O. Box 83095
Portland, OR 97283 USA

503-286-0685
800-547-9471
Fax: 503-286-1743

May 15, 2012

MATERIAL SAFETY DATA SHEET

Confirms to Requirements of OSHA Standard 1910.1200

HAZARD COMMUNICAITON

I. Product Identification: Austenite Manganese Steel Castings Bearing Material Codes Containing the Letters G, L, or R.

II. Hazardous Components:

	CAS No.	Percent	TLV Mg/VuM	PEL Mg/CuM
Iron	7770-02-2	>75%	5.0	10.0
Manganese	7439-96-5	10-26%	1.0	5.0
Molybdenum	7439-98-7	0-2%	10.0	15.0

III. Overview:

There are no chemical hazards from these castings in solid form at room temperature. Machining, grinding, welding and flame or Air-Arc cutting of castings can generate dust or fume. Most of this will be iron or iron oxide and overexposure to iron can cause siderosis or iron pigmentation of the lungs. Little or no disability results from siderosis.

IV. Physical Data:

Odorless silver gray solid with a S.G. of about 7.9. Other properties as **BP, VP** and water solubility are not applicable.

V. Fire and Explosion Data:

Austenitic Manganese Steel castings will not burn or explode.

VI. Health Hazard Data:

Eyes: Metal particles in the eyes may cause irritation if not removed. Particles should be removed by a trained person.

Skin Contact: No hazards known.

Breathing: Prolonged or repeated exposure to iron oxide fume may cause siderosis. Maintain adequate ventilation when welding on or thermally cutting castings.

Ingestion: Not Applicable

VII. Reactive Data:

Austenite Manganese steel castings are chemically stable. Hazardous polymerization will not occur.

VIII. Spill and Leak Procedure:

Dust collected from machining, welding or thermal cutting may be classified as "Hazardous Waste". Also, castings can be recycled. Consult local authorities about disposition of these items.

IX. Protective Equipment:

Respiratory: Wear **NIOSH** approved respirator for dust or fume if concentrations exceed the **TLV** or **PEL**.

Ventilation: Provide general ventilation and/or local exhaust if necessary to maintain concentration below **TLV**.

Eye Protection: Safety glasses with side shields and/or face shields for grinding; goggles or helmet for welding.

Other: Protective apron and gauntlets when welding on or thermally cutting castings.

X. Special Procedures:

Storage requires no special requirements.

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Auto / Truck Premium Diesel Fuel Formula**

Product Code(s) : 00391, 90391

Recommended use of the chemical and restrictions on use

: Diesel fuel treatment. No restrictions on use known.

Chemical family : Mixture.

Name, address, and telephone number of the manufacturer:

FPPF Chemical Company, Inc.
117 West Tupper Street
Buffalo, NY, USA
14201

Name, address, and telephone number of the supplier:

Refer to manufacturer

Manufacturer's Telephone # : 1-800-735-3773

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Colourless to slightly hazy liquid. Amber liquid. Slight petroleum odour.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification:
Flammable liquid- Category 3
Acute Toxicity, dermal - Category 4
Acute Toxicity, inhalation - Category 3 (vapor)
Skin Corrosion/Irritation - Category 2
Eye Damage/Irritation - Category 2A
Aspiration Toxicity - Category 1
Reproductive toxicity-Category 2 Developmental
Carcinogen - Category 2
Specific Target Organ Toxicity, Single Exposure - Category 3 (cns)
Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Label elements

Hazard pictogram(s)

Signal Word

DANGER!

Hazard statement(s)

Flammable liquid and vapour
Harmful in contact with skin.
Toxic if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
Suspected of damaging the unborn child.
Suspected of causing cancer.

SAFETY DATA SHEET

Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. - No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors or mists. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Wash hands thoroughly after handling.

In case of fire, use water fog, dry chemical, CO2 or 'alcohol' foam.
If exposed or concerned: Get medical attention/advice.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.
IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Do NOT induce vomiting.

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

No OSHA defined hazard classes.
Other hazards which do not result in classification:
May be sensitive to static discharge. Burning produces obnoxious and toxic fumes.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

Environmental precautions: Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	CAS #	Concentration
Light aromatic solvent naphtha	Aromatic solvent naphtha Solvent Naphtha (Petroleum) Light Aromatic	64742-95-6	**50.0 - 60.0**
Naphthalene	Moth balls Moth flakes Tar camphor	91-20-3	**0.1 - 0.9**
1,2,4-Trimethylbenzene	Pseudocumene	95-63-6	**3.0 - 5.0**
Xylene (mixed isomers)	Dimethylbenzene Methyltoluene Xylol	1330-20-7	**1.0 - 1.5**
Heavy aromatic solvent naphtha	Aromatic solvent naphtha Heavy Aromatic Naphtha	64742-94-5	**0.5 - 2.0**
1,3,5-Trimethyl benzene	Mesitylene Trimethylbenzol	108-67-8	**1.5 - 3.5**
2-Ethylhexyl nitrate	Nitric acid, 2-ethylhexyl ester Ethylhexyl nitrate	27247-96-7	**1.0 - 3.0**
trimethylbenzene	Trimethylbenzene (mixed isomers) Methylxylenes	25551-13-7	**1.0 - 1.5**
Cumene	Isopropyl benzene; Cumol, 2-Phenyl propane	98-82-8	**0.1 - 0.9**
Ethylbenzene	Ethylbenzol Phenylethane	100-41-4	**0.1 - 0.5**
Ethylene glycol monobutyl ether (EGMBE)	2-Butoxy Ethanol; EGBE; 2-Butoxy-1-ethanol	111-76-2	**20.0 - 22.0**

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SAFETY DATA SHEET

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Do NOT induce vomiting. Aspiration hazard. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.

Inhalation : If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only.

Skin contact : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs, get medical advice/attention.

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

: If exposed or concerned: Get medical attention/advice.
Harmful in contact with skin. May be absorbed through the skin, producing symptoms similar to ingestion or inhalation.
Toxic if inhaled. Symptoms may include coughing, choking and wheezing. May cause respiratory impairment and lung damage.
Causes skin irritation. Symptoms may include redness, itching and swelling.
Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.
May be fatal if swallowed and enters airways. Aspiration hazard - material may cause lung inflammation or damage if it enters lungs through vomiting or swallowing. Symptoms include coughing, shortness of breath and wheezing.
May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing and breathing difficulties.
May cause drowsiness and dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.
Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing.
Suspected of damaging the unborn child. Symptoms may include reduced fetal weight, delayed ossification and persistent behavioural effects.

Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage, based on animal data. Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

Indication of any immediate medical attention and special treatment needed

: Immediate medical attention is required. Provide general supportive measures and treat symptomatically. Show this safety data sheet to the doctor in attendance.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Dry chemical, foam, carbon dioxide and water fog.

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Flammable liquid and vapour Keep away from heat, sparks, and open flames.
May accumulate static charge by flow or agitation. After prolonged storage, may release explosive peroxides in the presence of air. Vapors may travel considerable distance to a source of ignition and flash back. Vapours may be heavier than air and may collect in confined and low-lying areas. Product may float, and be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.106)

: Flammable Liquid - Category 3

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Hazardous combustion products

: Carbon oxides. Polycyclic aromatic hydrocarbons. Reactive hydrocarbons. Nitrogen oxides. Aldehydes. Other irritating fumes and smoke.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Evacuate personnel to safe areas. Keep all other personnel upwind and away from the spill/release. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Do not use combustible absorbents, such as sawdust. Bond and ground transfer containers and equipment to avoid static accumulation. Pick up and transfer to properly labelled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures

: In case of a transportation accident, in the United States contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ):
Naphthalene (100 lbs / 45.4 kg)
Xylene (100 lbs / 45.4 kg)
Cumene (5000 lbs / 2270 kg)
Ethylbenzene (1000 lbs / 454 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Keep away from heat, sparks and open flame. - No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/clothing and eye/face protection. Avoid breathing mist or vapours. Wash thoroughly after handling. Do not ingest. Do not eat, drink, smoke or use cosmetics while working with this product. Avoid contact with skin, eyes and clothing. Avoid contact with incompatible materials.

Conditions for safe storage : Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up. Store away from incompatibles and out of direct sunlight. After prolonged storage, may release explosive peroxides in the presence of air. Direct sunlight or heat may accelerate the release of peroxides. Rate of peroxide formation is not known. Take measures to prevent the build up of electrostatic charge. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizing agents, Perchloric acid, Bases .

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Light aromatic solvent naphtha	N/Av	N/Av	N/Av	N/Av
Naphthalene	10 ppm (skin)	N/Av	10 ppm ; 50 mg/m³	15ppm; 75mg/m³
1,2,4-Trimethylbenzene	25 ppm (trimethylbenzene isomers)	N/Av	25 ppm (trimethylbenzene isomers) (final rule limit)	N/Av
Xylene (mixed isomers)	100 ppm	150 ppm	100 ppm (435 mg/m³)	N/Av
Heavy aromatic solvent naphtha	N/Av	N/Av	500 ppm (as petroleum distillates, naphtha)	N/Av
1,3,5-Trimethyl benzene	25 ppm (trimethylbenzene isomers)	N/Av	25 ppm (trimethylbenzene isomers) (final rule limit)	N/Av
2-Ethylhexyl nitrate	N/Av	N/Av	N/Av	N/Av
trimethylbenzene	25 ppm	N/Av	25 ppm (final rule limit)	N/Av
Cumene	50 ppm	N/Av	50 ppm ; 245 mg/m³ (Skin)	N/Av
Ethylbenzene	20 ppm	N/Av	100 ppm (435 mg/m³)	125ppm (545mg/m³)
Ethylene glycol monobutyl ether (EGMBE)	20 ppm	N/Av	50 ppm (skin)	N/Av

Exposure controls

Ventilation and engineering measures
: Use only outdoors or in a well-ventilated area. Use explosion-proof electrical and ventilating equipment. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations
: Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear to slightly hazy amber liquid.
Odour	:	Solvent odor.
Odour threshold	:	N/Av
pH	:	N/Av
Melting/Freezing point	:	N/Av
Initial boiling point and boiling range	:	>149°C / 300°F
Flash point	:	48.3°C / 119°F
Flashpoint (Method)	:	Tag closed cup
Evaporation rate (BuAe = 1)	:	Slower than n-butyl acetate
Flammability (solid, gas)	:	N/Ap
Lower flammable limit (% by vol.)	:	N/Av
Upper flammable limit (% by vol.)	:	N/Av
Oxidizing properties	:	None known.
Explosive properties	:	N/Av
Vapour pressure	:	<4mm Hg @ 20°C
Vapour density	:	>1
Relative density / Specific gravity	:	0.891
Solubility in water	:	Partially soluble.
Other solubility(ies)	:	N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity	:	N/Av
Volatiles (% by weight)	:	90%(approximately)
Volatile organic Compounds (VOC's)	:	N/Av
Absolute pressure of container	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical comments	:	None reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not normally reactive.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization will not occur. May be sensitive to static discharge. May form explosive peroxides during prolonged exposure to air and heat. Rate of peroxide formation is not known.
Conditions to avoid	:	Keep away from heat, sparks and flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Take precautionary measures against static discharge. Avoid contact with incompatible materials.
Incompatible materials	:	Strong oxidizing agents, Perchloric acid, Bases .
Hazardous decomposition products	:	None reported by the manufacturer. Refer also to hazardous combustion products, Section 5.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Toxic if inhaled. Inhalation may cause respiratory irritation and central nervous system depression. Symptoms include: Upper respiratory irritation, coughing, sneezing, staggering gait, giddiness, drowiness, slurred speech, nausea, and possible nervous system depression.

Sign and symptoms ingestion

: Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea. Causes symptoms similar to those listed for inhalation. May be fatal if swallowed and enters airways. Aspiration hazard - material may cause lung inflammation or damage if it enters lungs through vomiting or swallowing. Symptoms include coughing, shortness of breath and wheezing.

Sign and symptoms skin : Harmful in contact with skin. May be absorbed through the skin, producing symptoms similar to ingestion or inhalation.
Causes skin irritation. Symptoms include: Dryness, itching, cracking, burning, redness and swelling.

Sign and symptoms eyes : Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Potential Chronic Health Effects

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Chronic overexposure to 2-butoxyethanol may cause liver, kidney and blood damage.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification: Carcinogenicity- Category 2 Suspected of causing cancer.

Contains Naphthalene. Naphthalene is classified as carcinogenic by IARC (Group 2B) and NTP (Group 2 - Reasonably anticipated).
Contains Ethylbenzene. Ethylbenzene is classifed as carcinogenic by IARC (Group 2B) and ACGIH (Category A3).
Contains Cumene. Cumene is classified as possibly carcinogenic by IARC (Group 2B).

Reproductive effects & Teratogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification Reproductive Toxicity - Category 2 Suspected of damaging the unborn child. Developmental

Contains Xylene (mixed isomers) Xylene may cause fetotoxic effects (e.g. reduced fetal weight, delayed ossification, behavioral effects) at doses which are not maternally toxic, based on animal data.

Sensitization to material : Not expected to be a skin sensitizer.
Not expected to be a respiratory sensitizer.

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Specific target organ effects : Eyes, skin, respiratory system, digestive system, central nervous system, blood system.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification
Specific target organ toxicity, single exposure Category 3 May cause drowsiness and dizziness. May cause respiratory irritation.

Not classified as a specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure
: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials : None reported by the manufacturer.

Toxicological data : The calculated ATE values for this mixture are:
ATE oral = 2441.9mg/kg
ATE dermal = 1036.5mg/kg
ATE inhalation (vapours) =6.5mg/L/4H
ATE inhalation (mists) = 1005.9mg/L/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Light aromatic solvent naphtha	>17.7mg/L/4H (vapour)	8400 mg/kg	>3160 mg/kg
Naphthalene	No information available.	490 mg/kg	>20,000 mg/kg
1,2,4-Trimethylbenzene	18 mg/L	5000 mg/kg	> 3160 mg/kg
Xylene (mixed isomers)	6350 ppm (27.6 mg/L) (vapours)	3253 mg/kg	12 180 mg/kg
Heavy aromatic solvent naphtha	> 17.1 mg/L/4 hours	> 6000 mg/kg	> 3160 mg/kg
1,3,5-Trimethyl benzene	24 mg/L (vapour)	23 000 mg/kg	> 3160 mg/kg
2-Ethylhexyl nitrate	> 14 mg/L	> 9600 mg/kg	> 4800 mL/kg
trimethylbenzene	18 - 24 mg/L (vapour)	8970 mg/kg	> 3160 mg/kg
Cumene	8000 ppm; (39 mg/L) (vapor)	2260 mg/kg	10 627 mg/kg
Ethylbenzene	4000 ppm (17.4 mg/L) (vapour)	3500 mg/kg	15 380 mg/kg
Ethylene glycol monobutyl ether (EGMBE)	450 ppm (2.175 mg/L)	530 mg/kg	400 - 500 mg/kg

Other important toxicological hazards
: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself.

See the following tables for individual ingredient ecotoxicity data.

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Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Light aromatic solvent naphtha	64742-95-6	9.22 mg/L (Rainbow trout)	N/Av	None.
Naphthalene	91-20-3	0.96 mg/L (pink salmon)	0.12mg/L (40 days) (pink salmon)	None.
1,2,4-Trimethylbenzene	95-63-6	7.72 mg/L (Fathead minnow)	N/Av	None.
Xylene (mixed isomers)	1330-20-7	8.2 mg/L (Rainbow trout)	N/Av	None.
Heavy aromatic solvent naphtha	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
1,3,5-Trimethyl benzene	108-67-8	12.52 mg/L (Goldfish)	N/Av	None.
2-Ethylhexyl nitrate	27247-96-7	2 mg/L (Zebra fish)	N/Av	None.
trimethylbenzene	25551-13-7	7.72 mg/L (Fathead minnow) (Read-across)	N/Av	None.
Cumene	98-82-8	4.5 mg/L (Rainbow trout)	0.38mg/L QSAR	None.
Ethylbenzene	100-41-4	4.2 mg/L (Rainbow trout)	1.13 mg/L(30 days)	None.
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	1490 mg/L (Bluegill)	>100mg/L (Zebra fish)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Light aromatic solvent naphtha	64742-95-6	6.16 mg/L (Daphnia magna)	N/Av	None.
Naphthalene	91-20-3	3.4 mg/L/ Water flea	0.6mg/L	None.
1,2,4-Trimethylbenzene	95-63-6	3.6mg/L (Daphnia magna)	N/Av	None.
Xylene (mixed isomers)	1330-20-7	3.2 - 9.56 mg/L (Daphnia magna)	N/Av	None.
Heavy aromatic solvent naphtha	64742-94-5	1.1 mg/L Water flea	N/Av	None.
1,3,5-Trimethyl benzene	108-67-8	6 mg/L (Daphnia magna)	0.4mg/L	None.
2-Ethylhexyl nitrate	27247-96-7	> 12.6 mg/L (Daphnia magna)	N/Av	None.
trimethylbenzene	25551-13-7	2.7 mg/L (Daphnia magna) (Read-across)	0.4 mg/L (Read-across)	None.
Cumene	98-82-8	2.14 mg/L/24hr (Daphnia magna)	0.35mg/L	None.
Ethylbenzene	100-41-4	1.81 mg/L (Daphnia magna)	N/Av	None.
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	835mg/L Daphnia magna (Water flea)	100mg/L Daphnia magna (Water flea)	None.

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Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Light aromatic solvent naphtha	64742-95-6	N/Av	N/Av	N/Av
Naphthalene	91-20-3	0.4mg/L/72hr (Marine diatom)	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	2.356mg/L/96hr QSAR	N/Av	None.
Xylene (mixed isomers)	1330-20-7	3.2 - 4.9 mg/L/72hr (Green algae)	N/Av	None.
Heavy aromatic solvent naphtha	64742-94-5	7.2 mg/L/72 hours (Green algae)	0.22 mg/L/72 hours (Green algae)	None.
1,3,5-Trimethyl benzene	108-67-8	3.191 mg/L/96hr (Green algae) (QSAR)	N/Av	None.
2-Ethylhexyl nitrate	27247-96-7	1.57 mg/L/72hr (Green algae)	12.6 mg/L/72hr	None.
trimethylbenzene	25551-13-7	5.7 mg/L/72hr (Green algae) (Read-across)	0.38 mg/L/72hr (Read-across)	None.
Cumene	98-82-8	1.29 mg/L/72hr (Green algae)	0.73mg/L	None.
Ethylbenzene	100-41-4	3.6 mg/L/96hr (Green algae)	3.4 mg/L/96hr	None.
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	911mg/L/72hr (Green algae)	286mg/L (Green algae)	None.

Persistence and degradability

: No data is available on the product itself. The following ingredients are considered to be readily biodegradable: 2-butoxyethanol

Bioaccumulation potential : No data is available on the product itself.

See the following data for ingredient information.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Light aromatic solvent naphtha (CAS 64742-95-6)	2.1 - 6(calculated)	10 - 2500
Naphthalene (CAS 91-20-3)	3.7	30 - 430 species: fish
1,2,4-Trimethylbenzene (CAS 95-63-6)	3.78	31 - 275
Xylene (mixed isomers) (CAS 1330-20-7)	3.12 - 3.2	50 - 58
Heavy aromatic solvent naphtha (CAS 64742-94-5)	2.9 - 6.1	No information available.
1,3,5-Trimethyl benzene (CAS 108-67-8)	3.6 - 3.93	23 - 328
2-Ethylhexyl nitrate (CAS 27247-96-7)	5.24	No information available.
trimethylbenzene (CAS 25551-13-7)	3.63	42 - 328
Cumene (CAS 98-82-8)	3.55 at 23 °C	224
Ethylbenzene (CAS 100-41-4)	3.15	1.1 - 1.5
Ethylene glycol monobutyl ether (EGMBE) (CAS 111-76-2)	0.81 at 25 °C	0.97

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: The ecological characteristics of this product have not been fully investigated. Contains material that may be harmful in the environment. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

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SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1993	FLAMMABLE LIQUID, N.O.S. (Aromatic naphtha; Trimethylbenzene)	3	III	
49CFR/DOT Additional information	Not regulated for road or rail shipment if packaged in non-bulk containers (450 L / 119 Gallons or less each). Refer to 49 CFR Section 173.150. This product meets the criteria for an environmentally hazardous material according to the IMDG Code.				
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Aromatic naphtha; Trimethylbenzene)	3	III	
TDG Additional information	This material may be shipped as non-regulated material when in small means of containment (<450 Litres), provided the requirements of TDG section 1.33 are met. This product meets the criteria for an environmentally hazardous material according to the IMDG Code.				

Special precautions for user : Keep away from heat, sparks and open flame. - No smoking.

Environmental hazards : This product meets the criteria for an environmentally hazardous material according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

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Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Light aromatic solvent naphtha	64742-95-6	Yes	N/Ap	N/Ap	No	N/Ap
Naphthalene	91-20-3	Yes	100 lb/ 45.4 kg	N/Av	Yes	0.1%
1,2,4-Trimethylbenzene	95-63-6	Yes	N/Ap	N/Ap	Yes	1%
Xylene (mixed isomers)	1330-20-7	Yes	100 lb/ 45.4 kg	N/Ap	Yes	1%
Heavy aromatic solvent naphtha	64742-94-5	Yes	N/Ap	N/Av	No	N/Ap
1,3,5-Trimethyl benzene	108-67-8	Yes	N/Ap	N/Ap	No	N/Ap
2-Ethylhexyl nitrate	27247-96-7	Yes	N/Ap	N/Ap	No	N/Ap
trimethylbenzene	25551-13-7	Yes	N/Ap	N/Ap	No	N/Ap
Cumene	98-82-8	Yes	5000 lb/ 2270 kg	N/Ap	Yes	1%
Ethylbenzene	100-41-4	Yes	1000 lb/ 454 kg	N/Ap	Yes	0.1%
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Acute Health Hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Light aromatic solvent naphtha	64742-95-6	No	Not listed	No	No	No	No	No	No
Naphthalene	91-20-3	Yes	Carcinogen	Yes	Yes	Yes	Yes	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	No	Not listed	No	Yes	Yes	Yes	Yes	No
Xylene (mixed isomers)	1330-20-7	No	Not listed	Yes	Yes	Yes	Yes	Yes	Yes
Heavy aromatic solvent naphtha	64742-94-5	No	Not listed	No	No	No	No	No	No
1,3,5-Trimethyl benzene	108-67-8	No	Not listed	Yes	Yes	No	No	No	No
2-Ethylhexyl nitrate	27247-96-7	No	Not listed	No	No	No	No	No	No
trimethylbenzene	25551-13-7	No	Not listed	Yes	Yes	Yes	Yes	Yes	Yes
Cumene	98-82-8	Yes	Carcinogen	Yes	Yes	Yes	Yes	Yes	Yes
Ethylbenzene	100-41-4	Yes	Carcinogen.	Yes	Yes	Yes	Yes	Yes	Yes
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	No	Not listed	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS Classification: See Section 2.

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International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Light aromatic solvent naphtha	64742-95-6	265-199-0	Present	Present	(9)-1698	KE-31662	Present	May be used as a single component chemical under an appropriate group standard
Naphthalene	91-20-3	202-049-5	Present	Present	(4)-311	KE-25545	Present	HSR001287
1,2,4-Trimethylbenzene	95-63-6	202-436-9	Present	Present	(3)-7; (3)-3427	KE-34410	Present	HSR001382
Xylene (mixed isomers)	1330-20-7	215-535-7	Present	Present	(3)-60; (3)-3	KE-35427	Present	HSR000983
Heavy aromatic solvent naphtha	64742-94-5	265-198-5	Present	Present	(3)-7	KE-31656	Present	May be used as a single component chemical under an appropriate group standard
1,3,5-Trimethyl benzene	108-67-8	203-604-4	Present	Present	(3)-7; (3)-3427	KE-34411	Present	HSR001229
2-Ethylhexyl nitrate	27247-96-7	248-363-6	Present	Present	(2)-3598	KE-13803	Present	May be used as a single component chemical under an appropriate group standard
trimethylbenzene	25551-13-7	247-099-9	Present	Present	(3)-7; (3)-3427	KE-34408	Present	May be used as a component in a product covered by a group standard, but is not approved for use as a chemical in its own right.
Cumene	98-82-8	202-704-5	Present	Present	(3)-32; (3)-22	KE-23957	Present	HSR001184
Ethylbenzene	100-41-4	202-849-4	Present	Present	(3)-60; (3)-28	KE-13532	Present	HSR001151
Ethylene glycol monobutyl ether (EGMBE)	111-76-2	203-905-0	Present	Present	(7)-97; (2)-407	KE-04134	Present	HSR001154

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
ATE: Acute Toxicity Estimate
AICS: Australian Inventory of Chemical Substances
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CNS: Central Nervous System
CSA: Canadian Standards Association
DOT: Department of Transportation
EC50: Effective Concentration 50%.
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances

SAFETY DATA SHEET

EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
IMDG: International Maritime Dangerous Goods
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
NJ: New Jersey
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TPQ: Threshold Planning Quantity
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : Canadian Centre for Occupational Health and Safety (CCOHS), CCInfoWeb databases, 2015 (CHEMINFO, HSDB and RTECS).
OECD- The Global Portal to Information on Chemical Substances - eChemPortal, 2015
European Chemicals Agency, Classification Legislation, 2015
Material Safety Data Sheet from manufacturer
Information taken from reference works and the literature.

Preparation Date (mm/dd/yyyy)

: 07/06/2015

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: FPPF Chemical Company, Inc. 117 West Tupper Street Buffalo, NY, USA 14201 Telephone: 1-800-735-3773 Please direct all enquiries to FPPF Chemical Company	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	icc ComplianceCenter

SAFETY DATA SHEET

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc using information provided by / obtained from FPPF Chemical Company, Inc and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and FPPF Chemical Company, Inc expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc and FPPF Chemical Company, Inc.

END OF DOCUMENT

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

Sheet	1 of 6
Revision No :	10
Last Revision Date :	January 2006

This is an uncontrolled copy

PRODUCT NAME

AUTO DIESEL / DERV

SYNONYMS : G.O.R.V., Ultra-Low Sulphur Diesel, AD10

NAME AND ADDRESS OF MANUFACTURER/SUPPLIER

ConocoPhillips Ltd, Humber Refinery, South Killingholme, North Lincolnshire, DN40 3DW.
Telephone No. 01469 571571
Facsimile No. 01469 555143

EMERGENCY CONTACT

ConocoPhillips Ltd. Humber Refinery, South Killingholme, Immingham, North Lincolnshire DN40 3DW.
Health and Safety Emergency Telephone No. 01469 555348 (24 hours)

APPLICATION

For use as a fuel in diesel engines only. Any other use implies a processing operation which may change its essential characteristics and liability for safety of the product will transfer to the processor.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Petroleum Hydrocarbons >99%

Saturated olefinic and aromatic - C_{10} to C_{26} - may contain Polycyclic Aromatic Hydrocarbons - PAHs.
CAS No. 068334-30-5. EINECS No. 269-822-7, R40.

Additives

1. Middle distillate flow improvers (various) up to 1000ppm. (Dispersion of Ethylene vinyl acetate in an organic solvent).
2. Cetane improvers (Alkyl Nitrates) - up to 500ppm. CAS No. 27247-96-7, EINECS No. 269-822-7.
3. May contain Dye and Chemical Marker - Gas Oil Marker Concentrate. CAS No. 68334-30-5.
4. Antistatic Additive 1 - 3 ppm
5. May contain a multifunctional detergent

3. HAZARDS IDENTIFICATION

Health Hazards:
This product contains amounts of Polycyclic Aromatic Hydrocarbons, some of which are known from experimental animal studies to be skin carcinogens. Prolonged and repeated exposure may therefore cause dermatitis and there is a risk of skin cancer. The risk of skin cancer will be very low, providing the handling precautions are such that prolonged and repeated skin contact is avoided and good personal hygiene is observed. Aspiration of liquid into the lungs directly or as a result of vomiting following ingestion of the liquid can cause severe lung damage and death.

Safety Hazards:
Product can accumulate static charges, which may be a possible ignition source (see Section 7). However product does contain an antistatic additive.

Environmental Hazards:
Dangerous for the environment. Toxic to aquatic organisms. May cause long-term adverse effects in the environment.

4. FIRST AID MEASURES

Eyes : Rinse immediately with plenty of water until irritation subsides. If irritation persists, obtain medical attention.

Skin : Immediate flush with large amounts of water, using soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, get medical attention.

Inhalation : In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

Ingestion : DO NOT INDUCE VOMITING, since it is important that no amount of the material should enter the lungs (aspiration). Keep at rest. Get prompt medical attention.

Pressure Injection : ALWAYS OBTAIN IMMEDIATE MEDICAL ATTENTION EVEN THOUGH THE INJURY MAY APPEAR MINOR.

5. FIRE-FIGHTING MEASURES

Extinguishing Media : Foam, dry chemical powder, carbon dioxide.

Fire and Explosion Hazards : Flammable liquid, moderate hazard. Liquid can release vapours that readily form flammable mixtures at or above the flash point.
Static discharge; material can accumulate static charges which may cause an incendiary electrical discharge. However, this product does contain an antistatic additive.

Special Fire-Fighting Procedures : Water fog or spray to cool fire exposed surfaces (e.g. containers) and to protect personnel, should only be used by personnel trained in fire-fighting. Cut off "fuel"; depending on circumstances, either allow the fire to burn out under controlled conditions or use foam or dry chemical powder to extinguish the fire. Respiratory and eye protection required for fire-fighting personnel exposed to fumes or smoke.

Hazardous Combustion Products : Smoke, sulphur oxides and carbon monoxide in the event of incomplete combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions : See Section 8.

Environmental Precautions :

Land Spill : Eliminate sources of ignition. Shut off source taking normal safety precautions. Prevent liquid from entering sewers, watercourses or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation. Take measures to minimise the effects of groundwater.

Water Spill : Eliminate the spill immediately with booms. Warn shipping. Notify port and other relevant authorities.

Decontamination Procedures :

Recover by skimming or pumping using explosion-proof equipment, or contain spilled liquid with booms, sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of absorbed residues as directed in Section 13.

7. HANDLING AND STORAGE

Store product in cool, well ventilated surroundings, well away from sources of ignition. Provide suitable mechanical equipment for the safe handling of drums and heavy packages.
Electrical equipment and fittings must comply with local regulations regarding fire prevention with this class of product.

Load/unload temperature : Ambient to 40^{o}C **Storage temperature** : Ambient to 40^{o}C

Special Precautions

Use the correct grounding procedure. Store and handle in closed or properly vented containers. Ensure compliance with statutory requirements for storage and handling. Check for and prevent potential leaks from containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace Exposure Limit :	Substance	8-hour TWA	STEL	Source / Other Information
	Mineral Oil Mist	5 mgm^{-3}	10 mgm^{-3}	HSE Guidance: *not* listed in EH 40)

Personal Protection : In open systems where contact is likely, wear safety goggles (EN 166) , chemical-resistant overalls, and chemically impervious gloves (EN 374). Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided. Where concentrations in air may exceed the OES approved respirators may be required (EN 405).

Monitoring Methods: Health & Safety Executive (HSE), Methods for the determination of Hazardous Substances (MHDS); MDHS 84
http://www.hsl.gov.uk/search.htm

AUTO DIESEL / DERV

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Clear straw coloured liquid	**Odour** :	Pungent petroleum
Density at 15°C :	0.82 g/ml	**pH** :	Not applicable
Vapour Pressure at 20°C :	< 0.3 Kpa	**Vapour Density (air=1)** :	< air
Boiling point, °C :	180 - 390°C	**Pour Point °C** :	-24°C
Flash Point (Closed Cup), °C :	> 55°C	**Auto-ignition Temperature, °C** :	250°C - 270°C

Flammability Limit, in Air, % by Volume : **LEL** : 0.5 **UEL** : 6.0

Kinematic Viscosity at 20°C, mm^2s^{-1} : 4.8 **Kinematic Viscosity at 40°C, mm^2s^{-1}** : 3.0

Solubility : Negligible

PLEASE NOTE THAT THESE PROPERTIES DO NOT CONSTITUTE A SPECIFICATION.

10. STABILITY AND REACTIVITY

Stability :	The product is stable and not subject to polymerisation.
Conditions to avoid :	Avoid exposure to extreme heat.
Materials to avoid :	Avoid contact with strong oxidising agents such as liquid chlorine.
Hazardous Decomposition Products :	Product does not decompose at ambient temperature.

11. TOXICOLOGICAL INFORMATION

The following toxicological assessment is based on a knowledge of the toxicity of the product's component's

HEALTH EFFECTS

On eyes :	Slightly irritating but does not damage eye tissue.
On skin :	Low order of acute toxicity. Irritating. Prolonged or repeated contact may also lead to more serious skin disorders, including skin cancer. Certain components present in this material may be absorbed through the skin, possibly in toxic quantities.
By inhalation :	In high concentrations and/or at elevated temperatures, vapour or mist is irritating to mucous membranes, may cause headaches and dizziness, may be anaesthetic and may cause other central nervous system effects. Elevated temperatures or mechanical action may form vapours, mists or fumes, which may be irritating to the eyes, nose, throat and lungs. Avoid breathing vapours, mists or fumes.

AUTO DIESEL / DERV

11. TOXICOLOGICAL INFORMATION CONTINUED .....

By ingestion : Low order of acute/systemic toxicity. Minute amounts aspirated into the lungs during ingestion or vomiting may cause sever pulmonary injury and death.

Chronic : Contains Polycyclic Aromatic Hydrocarbons (PAH's). Prolonged and/or repeated skin contact with certain PAH's has been shown to cause skin cancer. Prolonged and/or repeated exposure by inhalation of certain PAH's may also cause cancer of the lung and of other sites of the body.

Acute : Based upon animal test data from similar materials and products, the acute toxicity of this product is expected to be :

ORAL	LD50	> 5000 mg/kg
DERMAL	LD50	> 2000 mg/kg

12. ECOLOGICAL INFORMATION

In the absence of specific environmental data for this product, this assessment is based on information developed with various other crude oils. Gas oils released into the environment will float on water and spread on the surface; on release to soils, gas oils show some mobility, but absorption is the predominant physical process.

Ecotoxicity: Dangerous for the environment. Toxic to most invertebrates and slightly toxic to fish.

Mobility: Some mobility in soils.

Persistence and Degradability : Lighter components volatilise and in air undergo photolysis to give half-lives of less than a day. Photoxidation of liquid hydrocarbons on the water surface also contributes to the loss process. Slow to moderate degradation in water and soil.

Bioaccumulation Potential: Potential to bioaccumulate, but metabolic processes may reduce this tendency.

13. DISPOSAL CONSIDERATIONS

The product contains hazardous ingredients listed in Section 2. Collects and dispose of it at an authorised disposal facility, in conformance with national and local; regulations and in accordance with EEC Directives on hazardous waste.

14. TRANSPORT INFORMATION

Classification for Transport : Rails cars, tank trucks, tankers, barges, drum.

Shipping Name : Diesel Fuel

UN Number :	1202	**Packaging Group** :	III
UN Class :	3	**Marine Pollutant**:	See Section 6
ADR/RID :	Class 3	**ICAO/IATA** :	Class 3

Emergency Action Code: 3Y

AUTO DIESEL / DERV

15. REGULATORY INFORMATION

Hazard Label Data : Xn Harmful N Dangerous for the Environment

R & S Phrases :

R40	Limited evidence of carcinogenic effect.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
S2	Keep our of reach of children
S36/37	Wear suitable protective clothing and gloves
S61	Avoid releases into the environment, see Section 6

EC Directives : EC Directive 91 / 155 / EEC

Waste Oil Directive 87 / 101/ EEC

Statutory Information : The Health and Safety at Work Act 1974

Consumer Protection Act 1987

Environmental Protection Act 1990

Control of Substances Hazardous to Health Regulations 2002 (as amended)

Chemicals (Hazard Information and Packaging) Regulations 2002

Dangerous Substances and Explosive Atmospheres Regulations 2002

16. OTHER INFORMATION

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this Sheet. You should not use the product other than for the stated application or applications.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others or may be affected of any hazards described in this sheet and of any precautions that should be taken.

This data sheet has been revised in sections 1, 8

MSDS

SECTION 1 – Chemical Product and Company Identification

U S CHEMICAL & PLASTICS
An Alco Industries Company
600 Nova Drive SE
Massillon, OH 44646
PH 330-830-6000 - FAX 330-830-6005

For Chemical Emergency:
CHEMTREC: 1-800-424-9300

PRODUCT NAME:	**Balkamp-Napa Fiberglass Resin Jelly**
PRODUCT CODE:	**(58229B), (765-1240/765-1241/765-1242)**
SYNONYM/CROSS REFERENCE:	**Polyester Paste**
SCHEDULE B NUMBER:	**3214.10.0090**

SECTION 2 – Hazard Identification

OVEREXPOSURE EFFECTS:
ACUTE EFFECTS:
EYES: Contact with eyes can cause irritation, redness, tearing, blurred vision, and/or swelling.
SKIN: Contact with skin can cause irritation, (minor itching, burning and/or redness), Dermatitis, defatting may be readily absorbed through the skin.
INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.
INGESTION: Ingestion can cause gastrointestinal irritation, nausea, vomiting, diarrhea.

PRIMARY ROUTES OF EXPOSURE: skin, inhalation, eyes

SECTION 3 – Composition, Information or Ingredients

INGREDIENTS	WGT%	CAS #
Styrene	20-30%	100-42-5
Non-Fibrous Talc	30-40%	14807-96-6
Amorphous Silica	1-5%	7631-86-9

SECTION 4 – First Aid Measures

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.
SKIN: For skin contact, wash promptly with soap and excess water.
EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.
INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

SECTION 5 – Fire-Fighting Measures

FIRE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam
SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

SECTION 6 – Accidental Release Measures

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

SECTION 7 – Handling and Storage

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis, and oxidizers.

SECTION 8 – Exposure Controls and Personal Protection

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary.
VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.
PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin.
EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.
OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

INGREDIENTS	CAS #	TLV/PEL
Styrene	100-42-5	ACGIH TLV 20 ppm STEL 40 ppm OSHA PEL 100 ppm CPEL 200 ppm
Non-Fibrous Talc	14807-96-6	ACGIH TWA 2 mg/m^3 OSHA TLV 20 mppcf
Amorphous Silica	112926-00-8	OSHA TLV 20 mppcf

SECTION 9 – Physical and Chemical Properties

APPEARANCE: Blue smooth paste
SPECIFIC GRAVITY: 1.37
FLASH POINT: 89°F/31.7°C Seta Flash Closed cup
LOWER FLAMMABLE LIMIT %: N/E
UPPER FLAMMABLE LIMIT %: N/E
VAPOR PRESSURE (mmHG): Heavier than air
BOILING POINT: N/Av
VAPOR DENSITY: Heavier than air
EVAPORATION RATE (Ethyl Ether = 1): Slower than Ethyl Ether
VOLATILES BY WEIGHT: 20-30%
SOLUBILITY IN WATER: None
VOC: Grams/Litre = less exempts 297 lbs/gal = 2.48
loss upon curing 1.0 g/l

SECTION 10 – Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Open flames, sparks, heat, electrical and static discharge.
INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide, and Carbon.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 – Toxicological Information

CHRONIC EFFECTS:
Overexposure to this material has apparently been known to cause the following effects in lab animals: Eye, skin, lung, and central nervous system damage.

CARCINOGEN: YES __ NO X
TERATOGEN: YES __ NO X
MUTAGEN: YES __ NO X

STYRENE CARCINOGENICITY
Styrene is listed by IARC to be a possible carcinogen. Styrene studies have shown that Styrene causes cancer in certain laboratory animals. However, there is insufficient evidence to conclude that Styrene is a human carcinogen.

SECTION 12 – Ecological Information

N/E

SECTION 13 – Disposal Considerations

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION 14 – Transport Information

For Ground Transport: In USA
Consumer Commodity ORM-D or Limited Quantity

For Air Transport:
Must be re-boxed to UN specified packaging in quantities of no more than 5 kg per fiberboard box
UN3269, Polyester Resin Kit, 3, PGIII
Packing Instruction 370

For Ocean Transport:
UN3269, Polyester Resin Kit, 3, PGIII, F/P 31.7°C
EMS # F-E, S-D, In limited quantity

SECTION 15 – Regulatory Information

CALIFORNIA PROPOSITION 65:
Trace amounts of some chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be present in this product.

SECTION 313 SUPPLIER NOTIFICATION:
This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

CHEMICAL NAME	CAS	% BY WGT
Styrene	100-42-5	20-30%

This information must be included in all MSDS that are copied and distributed for this chemical.

SECTION 16 – Other Information

HMIS RATING:	Health	2	4 = Extreme
	Fire	3	3 = High
	Reactivity	1	2 = Moderate
			1 = Slight
			0 = Insignificant

Personal Protection - See Section VIII

MSDS

ABBREVIATIONS

IARC = International Agency for Research on Cancer
ACGIH = American Conference of Governmental Industrial Hygienists
NIOSH = National Institute of Occupational Safety and Health
TLV = Threshold Limit Value
PEL = Permissible Emission Level
DOT = Department of Transportation
NTP = National Toxicology Program
N/AV = Not Available
N/AP = Not Applicable
N/E = Not Established
N/D = Not Determined

PREPARED BY: U S CHEMICAL & PLASTICS
An Alco Industries Company
600 NOVA DRIVE SE
MASSILLON, OH 44646

TELEPHONE NBR: 330-830-6000
FAX NBR: 330-830-6005

DATE REVIEWED: February 2, 2011
DATE REVISED: May 18, 2011
REVISION: Section 14

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.

MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Battery Terminal Protector** (aerosol)

Product Number (s): **75046, 75646**

Product Use: Battery Terminal Protector

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Extremely Flammable. Harmful or Fatal if Swallowed. Contents Under Pressure.
Appearance & Odor: Dark red viscous liquid with petroleum solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild to moderate irritation including stinging, tearing and redness.

SKIN: Single, brief exposures may cause mild irritation. Frequent or prolonged contact may cause more severe irritation, defatting of the skin, and dermatitis.

INHALATION: High vapor concentrations are irritating to the mucous membranes and upper respiratory tract and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death. May cause peripheral nervous system disorder and/or damage.

INGESTION: Low order of toxicity by ingestion. May cause irritation of the gastrointestinal lining and nausea. Main hazard is aspiration into the lungs during swallowing or vomiting. Small amounts aspirated into the respiratory system may cause bronchopneumonia or pulmonary adema, possibly progressing to death.

CHRONIC EFFECTS: Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs.

TARGET ORGANS: central nervous system, peripheral nervous system, respiratory system

Medical Conditions Aggravated by Exposure: skin and respiratory conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition / Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Heptane	142-82-5	50 – 60
Liquefied petroleum gas	68476-86-8	25 - 35
Hexane isomers	64742-49-0 / 107-83-5	15 – 25
Petrolatum	8009-03-8	10 – 20
Xylene	1330-20-7	2 – 5
Solvent-refined paraffinic distillates	64741-88-4	2 – 5
Ethylbenzene	100-41-4	0.8
n-Hexane	110-54-3	0.4

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Do NOT induce vomiting. Contact a physician immediately. If victim is conscious, give 2 glasses of water.

Note to Physicians: Treat symptomatically. This product is an aspiration hazard. Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point: < 0°F / < -18°C (TCC) Upper Explosive Limit: 8 (estimate)
Autoignition Temperature: 500°F / 260°C Lower Explosive Limit: 1 (estimate)

Fire and Explosion Data:

Suitable Extinguishing Media: Class B fire extinguishers, dry chemical, foam or CO^2

Products of Combustion: Fumes, smoke and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition. Do not spray water directly on fire; product will float and could be reignited on surface of water.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Remove all sources of ignition. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Do not use product near any potential source of ignition. Avoid contact with eyes and skin. Avoid breathing vapors. Wash thoroughly after handling and before contacting food. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing. Do not store near potential sources of ignition.

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Heptane	500	NE	400	500	NE		ppm
Liquefied petroleum gas	1000	NE	1000	NE	NE		ppm
Hexane isomers	500(v)	1000(v)	500	1000	NE		ppm
Petrolatum	NE	NE	NE	NE	NE		
Xylene	100	NE	100	150	NE		ppm
Solvent-refined paraffinic distillates	5	NE	5	10	NE		mg/m^3
Ethylbenzene	100	NE	20	NE	NE		ppm
n-Hexane	500	NE	50(s)	NE	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved

cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile, PVC or Viton®. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: dark red, viscous
Odor: petroleum solvent
Odor Threshold: ND
Specific Gravity: 0.727
Initial Boiling Point: 118°F / 48°C
Freezing Point: ND
Vapor Pressure: ND
Vapor Density: > 1 (air = 1)
Evaporation Rate: fast
Solubility: negligible in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 86.3 g/L: 627.4 lbs./gal: 5.23

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition, temperature extremes

Incompatible Materials: Strong oxidizers

Hazardous Decomposition Products: Oxides of carbon, aldehydes and other products of incomplete combustion

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Heptane	No data	No data	103 g/m^3/4H
Liquefied petroleum gas	No data	No data	No data
Hexane isomers	No data	No data	No data
Petrolatum	> 5 g/kg	> 2 g/kg	No data
Xylene	4300 mg/kg	> 1700 mg/kg	5000 ppm/4H
Solvent-refined paraffinic distillates	No data	No data	No data
Ethylbenzene	3500 mg/kg	> 5000 mg/kg	55,000 mg/m^3/2H
n-Hexane	28,710 mg/kg	3000 mg/kg	48,000 ppm/4H

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Heptane	No	No	No	Skin	No
Liquefied petroleum gas	No	No	No	No	No
Hexane isomers	No	No	No	No	Unknown
Petrolatum	No	No	No	No	Unknown
Xylene	No	No	No	Skin	No
Solvent-refined paraffinic distillates	No	No	No	No	Unknown
Ethylbenzene	No	Group 2B	No	Eye, Skin	Unknown
n-Hexane	No	No	No	Skin	No

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: n-Hexane - 96 Hr LC50 Lepomis macrochirus: 4.12 mg/L
Xylene – 96 Hr LC50 Oncorhynchus mykiss: 13.5 – 17.3 mg/L
Ethylbenzene – 96Hr LC50 Pimephales promelas: 12.1 mg/L (flow-through)
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with a waste code of D001. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled. Any liquid product should be managed as a hazardous waste.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, flammable, 2.1, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, flammable, 2.1, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1, Limited Quantity

Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until December 31, 2020.
If shipping as limited quantity by ground, note that shipping papers are not required.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: Xylene (100 lbs), Ethylbenzene (1000 lbs), n-hexane (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	Yes
Reactive Hazard	No
Release of Pressure	Yes
Acute Health Hazard	Yes
Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
hexane (0.4%), Xylene (3.1%), Ethylbenzene (0.8%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): n-hexane, Xylene, Ethylbenzene

Occupational Safety and Health Administration:
This product is regulated by the Hazard Communications Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Ethylbenzene

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey:	75-83-2, 110-54-3, 79-29-8, 68476-86-8, 1330-20-7, 142-82-5, 100-41-4
Pennsylvania:	107-83-5, 75-83-2, 110-54-3, 79-29-8, 68476-86-8, 1330-20-7, 142-82-5, 100-41-4
Massachusetts:	107-83-5, 75-83-2, 110-54-3, 79-29-8, 68476-86-8, 1330-20-7, 142-82-5, 100-41-4
Rhode Island :	110-54-3, 68476-86-8, 1330-20-7, 142-82-5, 100-41-4

Canadian Regulations:

Controlled Products Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, B5, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

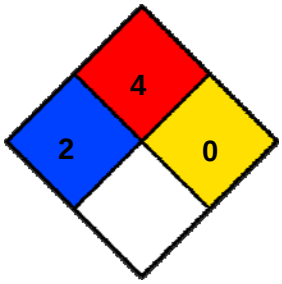
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	**2**
Flammability:	**4**
Reactivity:	**0**
PPE:	**B**

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 597P/Q
Revision Date: 01/30/2014

Changes since last revision: part number added

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Battery Cleaner with Indicator** (aerosol)

Product Number (s): **75097, 75697**

Product Use: Battery Cleaner

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

CAUTION: Contents Under Pressure.
Appearance & Odor: Yellow foam, no odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation including redness and burning.

SKIN: Prolonged or repeated contact can cause irritation and defatting of the skin.

INHALATION: Inhalation of a small amount is not expected to cause health effects. Prolonged exposure may cause dizziness or throat irritation.

INGESTION: Ingestion of a small amount is not expected to cause health effects. Ingestion of a larger amount may cause irritation to gastrointestinal tract.

CHRONIC EFFECTS: None known

TARGET ORGANS: None known

Medical Conditions Aggravated by Exposure: Pre-existing skin or eye distorders

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition / Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Water	7732-18-5	80 - 90
2-Butoxyethanol	111-76-2	2.9
Sodium bicarbonate	144-55-8	5 - 10
Detergent	127087-87-0	< 1
Liquefied Petroleum Gas	68476-86-8	3 - 8

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Do not induce vomiting. Call physician.

Note to Physicians: This product contains 2-Butoxyethanol which, if ingested in significant quantities, may result in red blood cell hemolysis.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is non-flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point: None
Autoignition Temperature: None
Upper Explosive Limit: ND
Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Products of Combustion: None

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Use with adequate ventilation. Avoid contact with skin and eyes. Wash hands after use. Do not expose aerosol containers to heat or flame. Do not incinerate container. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing.

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Water	NE	NE	NE	NE	NE		
2-Butoxyethanol	50 (s)	NE	20	NE	NE		ppm
Sodium bicarbonate	NE	NE	NE	NE	NE		
Detergent	NE	NE	NE	NE	NE		
Liquefied Petroleum Gas	1000	NE	1000	NE	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: yellow foamy
Odor: no odor
Odor Threshold: ND
Specific Gravity: 1.04
Initial Boiling Point: ~ 212°F / 100°C
Freezing Point: ~ 32°F / 0°C
Vapor Pressure: ND
Vapor Density: > 1 (air = 1)
Evaporation Rate: slow
Solubility: soluble in water
Coefficient of water/oil distribution: ND
pH: 8.5
Volatile Organic Compounds: wt %: 7.9 g/L: 82.16 lbs./gal: 0.68

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Keep away from heat, direct sunlight, open flames or sparks. Dropping of containers may cause bursting.

Incompatible Materials: Strong oxidizers

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Water	> 90 mL/kg	No data	No data
2-Butoxyethanol	470 mg/kg	220 mg/kg	450 ppm/4H
Sodium bicarbonate	4220 mg/kg	No data	No data
Detergent	3000 mg/kg	4400 mg/kg	No data
Liquefied Petroleum Gas	No data	No data	No data

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Water	No	No	No	No	No
2-Butoxyethanol	No	No	No	E (severe) / S (mild) / R (mild)	No
Sodium bicarbonate	No	No	No	None	No
Detergent	No	No	No	E (severe)	No
Liquefied Petroleum Gas	No	No	No	No	No

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: 2-Butoxyethanol 96 Hr LC50, Bluegill sunfish: 1490 mg/L
24 Hr LC50, daphnia: 1720 mg/L
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, non-flammable, 2.2, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, non-flammable, 2.2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2, Limited Quantity

Special Provisions: None

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: None

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:		
	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	Yes
	Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
2-Butoxyethanol (glycol ethers): 2.9%

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): None

Occupational Safety and Health Administration (OSHA):
This product is regulated under the Hazard Communication Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: None

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey:	111-76-2, 68476-86-8
Pennsylvania:	111-76-2, 68476-86-8
Massachusetts:	111-76-2, 68476-86-8
Rhode Island :	111-76-2, 68476-86-8

Canadian Regulations:

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

WHMIS Hazard Class: A, D2B

European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

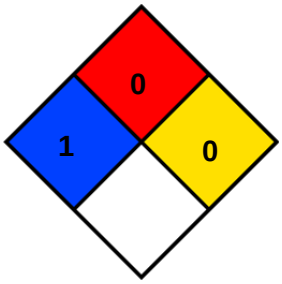
Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	**1**
Flammability:	**0**
Reactivity:	**0**
PPE:	**B**

Ratings range from 0 (no hazard) to 4 (severe hazard)

NFPA



Prepared By: Michelle Rudnick
CRC #: 530C
Revision Date: 01/30/2014

Changes since last revision: Part number added

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

SAFETY DATA SHEET

TRINKOTE
INDUSTRIAL FINISHES

DATE PRINTED	10/13/2016
SDS REF. No :	F-WR9745A

BLACK BOXCAR INT W/R EPOXY LINING
BNSF & OTHER RAILCAR CUSTOMERS

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BLACK BOXCAR INT W/R EPOXY LINING
BNSF & OTHER RAILCAR CUSTOMERS
PRODUCT CODE: F-WR9745A
SYNONYMS: N/A.
CAS NUMBER: N/A.
PRODUCT USE: Application Method, See Technical Data Sheet.
RECOMMENDED USE: Relevant identified uses of mixture and uses advised against. See Technical Data Sheet
RESTRICTION:n/a

MANUFACTURER
Trinkote Industrial Finishes
800 HUGHIE LONG ROAD

CRESSON, TX, 76035
817-396-4747

24 HR. EMERGENCY TELEPHONE NUMBER
CHEMTREC (US Transportation): (800)424-9300
CHEMTREC (International: 1(202)483-7616
Transportation)

2. HAZARDS IDENTIFICATION

CLASSIFICATION:
H315 Causes skin irritation
H319 Causes serious eye irritation

GHS LABEL ELEMENTS:

SIGNAL WORD:DANGER

HAZARD STATEMENTS:
002:H303 May Be Harmful If Swallowed
H315: Causes skin irritation
H319: Causes serious eye irritation

PRECAUTIONARY STATEMENTS:
P271 Use Only In Well Ventilated Area
P273: Avoid release to the environment.
P501: Dispose of contents/container to [in accordance with local/regional/national/international regulation].

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Carbon Black	3% - 5%	1333-86-4
Diacetone alcohol	1% - 3%	123-42-2

IMPURITIES:N/A.

* Toxic chemical subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

"WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM."

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Seek medical aid if irritation persists.

SKIN: Flush skin with soap and water while removing contaminated clothing. If irritation occurs, seek immediate medical attention. Do not reuse clothing or shoes until thoroughly cleaned.

INGESTION: Do not induce vomiting, and seek immediate medical attention. Do not attempt to give any liquids if victim is unconscious.

INHALATION: Immediately remove victim to fresh air. If victim is not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Seek immediate medical attention.

NOTES TO PHYSICIAN: If the victim is a child, give no more than 1 glass of water and 15cc (1 tablespoon) syrup of ipecac. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed endotracheal tube.

5. FIREFIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Extinguishing Media
Use Dry Chemical, CO2, Water spray, or Regular Foam.
Don't use straight streams
Move containers from fire area if you can do so without risk
Materials may burn but does not ignite readily.
Fire may produce irritating, corrosive and or toxic gases

Advice for Firefighters
Cool closed container exposed to fire by spraying them with water.
Do not allow run off contaminants from firefighting to enter drains or water courses.

UNSUITABLE EXTINGUISHING MEDIA: Unknown

SPECIFIC HAZARDS IN CASE OF FIRE: Exercise caution when fighting any chemical fire

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTION FOR FIRE FIGHTERS: WARNING! Flammable Liquid. Clear the fire area of unprotected personnel. Do not enter confined fire space without full bunker gear; including a positive pressure NIOSH approved SCBA. Cool fire exposed containers with water. If water is used, fog nozzles are preferred.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Personal precautions, use personal protective equipment and emergency procedures ELIMINATE ALL IGNITION SOURCES (no smoking , sparks or open flames in immediate area) Ensure adequate ventilation. Avoid breathing vapors, mis or gas. Do not touch or walk through spilled materials.

ENVIRONMENTAL PRECAUTIONS: Don't allow spills to enter drains or watercourses. Prevent further leakage or spillage if safe to do so. Avoid discharge into the environment.

METHOD AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Avoid contact with skin and eyes, avoid inhalation of vapors or mist. Close containers tightly after each use.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES: KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks static electricity, or other sources of ignition.

8. EXPOSURE CONTROLS\PERSONAL PROTECTION

EXPOSURE LIMITS

ENGINEERING CONTROLS: Depending on the site-specific conditions of use, provide adequate ventilation

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Select equipment to provide protection from the ingredients listed. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if the air monitoring demonstrates dust, vapor, or mist levels are above applicable limits, wear an appropriate, properly fitted respirator. If exposure may or does exceed occupational exposure limits (Section 8) use a NIOSH approved respirator to prevent overexposure. In accord with 29 CFR 1910.134, use either an atmosphere-suppling respirator or an air-purifying respirator for organic vapors.

EYES PROTECTION: Use chemical safety goggles and/or full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work areas.

SKIN PROTECTION: Protective equipment should be selected to provide protection from exposure to the chemicals listed. Depending on site-specific conditions of use, protective gloves, aprons, boots, head and face protection may be required to prevent contact. The equipment must be thoroughly cleaned or discarded after each use.

WORK HYGIENIC PRACTICES: Use good personal hygiene when handling this product. Wash hands after use, before eating, drinking, smoking, or using the toilet.

OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

COMMENTS: May be harmful or fatal if swallowed. May irritate body tissues. Use with adequate ventilation. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

COLOR:

FLASH POINT AND METHOD: 125.00N/A.

AUTO-IGNITION TEMPERATURE: N/A.

BOILING POINT/RANGE: 334.0 NA

MELTING POINT: N/A.

VAPOUR PRESSURE: N/A.

VAPOUR DENSITY: Heavier Than Air

SOLUBILITY:N/A.

ODOR/THRESHOLD: N/A.

UPPER /LOWER FLAMMABLE LIMITS: 1.8 TO 6.9

VOC: 0.764

Material gr/lt:91.592

RELATIVE DENSITY:1.202

EVAPORATION RATE: Slower Than Ether

FLAMMABILITY (SOLID,GAS):N/A.

PARTITION COEFFICIENT:N/A.

pH: N/A.

DECOMPOSITION TEMPERATURE:N/A.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Strong Oxidizers and Strong Acids

CONDITIONS TO AVOID: Avoid heat, sparks, flame and contact with strong oxidizing agents. Prevent vapor accumulation.

MATERIALS TO AVOID: Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and unidentified organic compounds may be formed during combustion.

11. TOXICOLOGICAL INFORMATION

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal

ACUTE EFFECTS:

EYE CONTACT:may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness.

SKIN CONTACT: May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin

INHALATION: Toxic by inhalation. May cause respiratory trac irritation. This product may be aspirated into the lungs and cause chemical pneumonitis.

INGESTION: Harmful if swallowed. May cause stomach distress, nausea for vomiting. Harmful: May cause lung damage if swallowed

TARGET ORGAN: Skin, eyes, gastrointestinal tract, respiratory system

CHRONIC EFFECTS:N/A.

TOXICITY VALUES:N/A.

12. ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY:N/A.

BIO-ACCUMULATIVE POTENTIAL:N/A.

MOBILITY IN SOIL:N/A.

OTHER ADVERSE EFFECTS:N/A.

ECOTOXICOLOGICAL OTHER INFORMATION: N/A.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Consult disposal expert. The preferred options for disposal are to send to licensed reclaimers. Any disposal practice must be in compliance with national, federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

14. TRANSPORT INFORMATION

UN-NUMBER: N/A.
UN PROPER SHIPPING NAME: Paint
TRANSPORT HAZARD CLASS: None Flammable Liquid, None Regulated
TRANSPORT HAZARD SUBCLASS:N/A.
PACKING GROUP: 2
MARINE POLLUTANT Y/N: N/A.

SPECIAL PRE-CAUTIONS:N/A.

15. REGULATORY INFORMATION

U.S. REGULATIONS:
U.S. SARA TITLE III (SUPERFUND AMENDMENRS AND REAUTHORIZATION ACT)
311/312 HAZARD CATEGORIES: This product should be reported as an immediate (acute) health hazard, delayed (chronic) health hazard, and a fire hazard.
FIRE: Yes **PRESSURE GENERATING:** No
REACTIVITY: No **ACUTE:** Yes **CHRONIC:** Yes
313 REPORTABLE INGREDIENTS: To the best of our knowledge, this product is not listed as a toxic chemical.
313 REPORTABLE INGREDIENTS

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: To the best of our knowledge, this product is not listed as a toxic chemical.

STATE REGULATIONS:N/A.

OTHER GOVT. REGULATIONS:N/A.

16. OTHER INFORMATION

DATE CREATED	10-13-16

REVISION INDICATOR:N/A.

MANUFACTURER DISCLAIMER: To the best of our knowledge, all information, recommendations, and suggestions appearing herein concerning this product are taken from raw material sources or based upon data believed to be reliable. Although reasonable steps has been taken in the preparation of this information, Trinkote Industrial Finishes. extends no guarantees, express or implied, makes no representations and assumes no responsibility as to the accuracy, reliability or completeness of the information presented. Trinkote Industrial Finishes. assumes no liability arising out of the use of the product by others.

MSDS

SECTION 1 – Chemical Product and Company Identification

U S CHEMICAL & PLASTICS
An Alco Industries Company
600 Nova Drive SE
Massillon, OH 44646
PH 330-830-6000 - FAX 330-830-6005

For Chemical Emergency:
CHEMTREC: 1-800-424-9300

PRODUCT NAME:	**Blaze Glaze**
PRODUCT CODE:	**(26034), 26116**
SYNONYM/CROSS REFERENCE:	**Premium Finishing Putty**
SCHEDULE B NUMBER:	**3214.10.0090**

SECTION 2 – Hazard Identification

OVEREXPOSURE EFFECTS:
ACUTE EFFECTS:
EYES: Contact with eyes can cause irritation, redness, tearing, blurred vision, and/or swelling.
SKIN: Contact with skin can cause irritation, (minor itching, burning and/or redness), Dermatitis, defatting may be readily absorbed through the skin.
INHALATION: Inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and/or asphyxiation. Aspiration of material into lungs may result in chemical pneumonitis which can be fatal.
INGESTION: Ingestion can cause gastrointestinal irritation, nausea, vomiting, diarrhea.

PRIMARY ROUTES OF EXPOSURE: skin, inhalation, eyes

SECTION 3 – Composition, Information or Ingredients

INGREDIENTS	WGT%	CAS #
Styrene	20-30%	100-42-5
Calcium Carbonate	5-15%	1317-65-3
Non-fibrous Talc	15-25%	14807-96-6
Glass Beads	1-10%	65997-17-3
Titanium Dioxide	0-10%	13463-67-7

SECTION 4 – First Aid Measures

INHALATION: If inhaled, remove victim from exposure to a well-ventilated area. Make them comfortably warm, but not hot. Use oxygen or artificial respiration as required. Consult a physician.
SKIN: For skin contact, wash promptly with soap and excess water.
EYES: For eye contact, flush promptly with excess water for at least fifteen minutes. Consult a physician.
INGESTION: If ingested, do not induce vomiting. Give victim a glass of water. Call a physician immediately.

SECTION 5 – Fire-Fighting Measures

FLASH POINT: 89°F/31.7°C Seta Flash Closed cup
LOWER FLAMMABLE LIMIT %: N/E
UPPER FLAMMABLE LIMIT %: N/E
FIRE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam
SPECIAL FIRE FIGHTING PROCEDURES: Fight like a fuel oil fire. Cool fire exposed containers with water spray. Firefighter should wear OSHA/NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARD: Closed containers exposed to high temperatures, such as fire conditions may rupture.

SECTION 6 – Accidental Release Measures

SPILLS, LEAK OR RELEASE: Ventilate area. Remove all possible sources of ignition. Avoid prolonged breathing of vapor. Contain spill with inert absorbent.

SECTION 7 – Handling and Storage

STORAGE AND HANDLING: Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing vapors. Do not store the product above 100°F/38°C. Do not flame, cut, braze weld or melt empty containers. Keep the product away from heat, open flame, and other sources of ignition. Avoid contact with strong acids, alkalis, and oxidizers.

SECTION 8 – Exposure Controls and Personal Protection

INGREDIENTS	CAS #	TLV/PEL
Styrene	100-42-5	ACGIH: TLV 20 ppm (skin), STEL 40 ppm (skin) OSHA: PEL 100 ppm, CPEL 200 ppm See Health Hazard Information
Calcium Carbonate	1317-65-3	ACGIH: TWA 10 mg/m^3
Non-fibrous Talc	14807-96-6	ACGIH: TWA 2 mg/m^3, OSHA: TLV 30 mppcf
Glass Beads	65997-17-3	ACGIH: TWA 10 mg/m^3
Titanium Dioxide	13463-67-7	ACGIH: TLV 10 mg/m^3; OSHA: TWA 15 mg/m^3

RESPIRATORY PROTECTION: If component TLV limits are exceeded, use NIOSH/MSHA approved respirator to remove vapors. Use an air-supplied respirator if necessary.
VENTILATION: Use adequate ventilation in volume and pattern to keep TLV/PEL below recommended levels. Explosion-proof ventilation may be necessary.
PROTECTIVE GLOVES: To prevent prolonged exposure use rubber gloves; solvents may be absorbed through the skin.
EYE PROTECTION: Safety Glasses or goggles with splash guards or side shields.
OTHER PROTECTIVE EQUIPMENT: Wear protective clothing as required to prevent skin contact.

SECTION 9 – Physical and Chemical Properties

APPEARANCE: Light blue-green smooth paste
SPECIFIC GRAVITY: 0.97
VAPOR PRESSURE (mmHG): Heavier than air
BOILING POINT: N/Av
VAPOR DENSITY: Heavier than air
EVAPORATION RATE (Ethyl Ether = 1): Slower than Ethyl Ether
VOLATILES BY VOLUME: 20-30%
SOLUBILITY IN WATER: None
VOC: Grams/Liter = 278 less exempts, Grams/Liter – 2.2 Unconsumed VOC upon curing

SECTION 10 – Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Open flames, sparks, heat, electrical and static discharge.
INCOMPATIBILITY MATERIALS TO AVOID: Strong acids, alkalis, oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide, Carbon Monoxide, and Carbon.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 – Toxicological Information

CHRONIC EFFECTS:
Overexposure to this material has apparently been known to cause the following effects in lab animals: Eye, skin, lung, and central nervous system damage.

CARCINOGEN: YES __ NO X
TERATOGEN: YES __ NO X
MUTAGEN: YES __ NO X

STYRENE CARCINOGENICITY
Styrene is listed by IARC to be a possible carcinogen. Styrene studies have shown that Styrene causes cancer in certain laboratory animals. However, there is insufficient evidence to conclude that Styrene is a human carcinogen.

SECTION 12 – Ecological Information

N/E

SECTION 13 – Disposal Considerations

WASTE DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION 14 – Transport Information

For Ground Transport: In USA
Consumer Commodity ORM-D or Limited Quantity

For Air Transport:
Must be re-boxed to UN specified packaging in quantities of no more than 5 kg per fiberboard box
UN3269, Polyester Resin Kit, 3, PGIII
Packing Instruction 370

For Ocean Transport:
UN3269, Polyester Resin Kit, 3, PGIII, F/P 40°C
EMS # F-E, S-D, In limited quantity

SECTION 15 – Regulatory Information

CALIFORNIA PROPOSITION 65:
Trace amounts of some chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be present in this product.

SECTION 313 SUPPLIER NOTIFICATION:
This product contains the following toxic chemicals subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

CHEMICAL NAME	CAS	% BY WGT
Styrene	100-42-5	20-30%

This information must be included in all MSDS that are copied and distributed for this chemical.

MSDS

SECTION 16 – Other Information

HMIS RATING:	Health	2	4 = Extreme
	Fire	3	3 = High
	Reactivity	1	2 = Moderate
			1 = Slight
			0 = Insignificant

Personal Protection - See Section VIII

ABBREVIATIONS

IARC	= International Agency for Research on Cancer
ACGIH	= American Conference of Governmental Industrial Hygienists
NIOSH	= National Institute of Occupational Safety and Health
TLV	= Threshold Limit Value
PEL	= Permissible Emission Level
DOT	= Department of Transportation
NTP	= National Toxicology Program
N/AV	= Not Available
N/AP	= Not Applicable
N/E	= Not Established
N/D	= Not Determined

PREPARED BY: U S CHEMICAL & PLASTICS
An Alco Industries Company
600 NOVA DRIVE SE
MASSILLON, OH 44646

TELEPHONE NBR: 330-830-6000
FAX NBR: 330-830-6005

DATE REVIEWED: January 28, 2011
DATE REVISED: May 16, 2011
REVISION: Section 14

The information in the Material Safety Data Sheet has been compiled from our experience and from data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of the safety precautions as may be necessary. We reserve the right to revise Material Safety Data Sheets from time to time as new technical information becomes available. The user has the responsibility to contact the Company to make sure that the MSDS is the latest one issued.

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION.

Rogersol, Inc.
5538 Northwest Highway
Chicago, IL 60630
800/621-0156
CHEMICAL EMERGENCY HOTLINE 800-424-9300

Blue Etch (CCRC)

H HEALTH 1
F FLAMMABILITY 2
R REACTIVITY 0
PERSONAL PROTECTION B

ITEM NUMBER: 15-00530-1P
ITEM DESCRIPTION: **Blue Etch CCRC (1gl)**
PRODUCT DESCRIPTION: Fountain Solution
CHEMICAL FAMILY: Acid Fountain Solution
REVISION DATE: 09/29/99

SECTION 2 - COMPOSITION INFORMATION ON INGREDIENTS

COMPONENT/CAS #	ACGIH TLV	OSHA PEL	% WT	NOTES
PHOSPHORIC ACID 85% 7664-38-2	1 MG/M3 TWA	1 MG/M3 TWA	1-5	
NORMAL PROPYL ALCOHOL 71-23-8	200 PPM (SKIN)	200 PPM (SKIN)	1-5	

HAZARDOUS IDENTIFICATION CODE: U.S.

NFPA RATING:		HMIS RATING:	
HEALTH:	1	HEALTH:	1
FLAMMABILITY:	2	FLAMMABILITY:	2
REACTIVITY:	0	REACTIVITY:	0

SCALE: 0 = no hazard, 1 = minimal, 2 = moderate, 3 = high, 4 = extreme
HMIS = Hazardous Materials Identification System
NFPA = National Fire Protection Association
(Personal Protection Rating to be supplied by user depending on use conditions.)

SECTION 3 - PHYSICAL CHEMICAL PROPERTIES

FLASH POINT; Method, T.C.C.(deg. F): 130
APPEARANCE AND ODOR: Blue liquid, mild odor
pH: Approx. 5.5
SPECIFIC GRAVITY(water = 1.00): 1.08
VAPOR PRESSURE(mmHG @ 68 deg. F)(ASTM): Not available
VAPOR DENSITY(air=1): Not available
ODOR THRESHOLD: Not available
BOILING POINT(degrees F): Not available
MELTING/FREEZING POINT: Not available
Coefficient of oil/water distribution: Not available
SOLUBILITY IN WATER: Complete
EVAPORATION RATE(n-butyl acetate = 1.00): Slower
PERCENT VOLATILITY BY WEIGHT(including water): 70
VOC lbs./gal Method 24: 0.4 (4.0%)

SECTION 4 - HEALTH HAZARDS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: eyes, skin and inhalation
EYE CONTACT: Product may cause the following: slight irritation on contact.
SKIN CONTACT: Product may cause the following: mild irritation possible: drying and redness.

ITEM NUMBER: 15-00530-1P
ITEM DESCRIPTION: **Blue Etch CCRC (1gl)**
REVISION DATE: 09/29/99

SKIN ABSORPTION: Cantains alcohol. This product may be slightly toxic if absorbed through the skin.
INHALATION: Product may cause the following: If vapors, mists and sprays of this product are inhaled, this may irritate nose, throat and lungs.
INGESTION: Product may cause the following: Irritating to the digestive tract and may cause headaches, central nervous system depression and nausea.
CHRONIC EFFECTS OF OVEREXPOSURE: None established.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting skin, eye and respiratory disorders as well as empaired liver and kidney functions may be aggrevated by exposure to this product.
OTHER INFORMATION: TARGET ORGANS: None.
CARCINOGEN: The ingredients in this product have not been identified as a carcinogen by: OSHA NTP IARC

SECTION 5 - ACCIDENTAL RELEASE INFORMATION

1. Remove all ignition sources.
2. Ventilate area of spill or leak.
3. For small quantities, absorb on paper towels. Evaporate in a safe place (such a fume hood). Allow sufficient time for evaporating vapors to completely clear the hood and ductwork. Burn the papers in a suitable location away from combustible materials. Petroleum distillates should not be allowed to enter a confined space, such as a sewer, because of the possibility of an explosion.

If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center at 800-424-8802. If spill in excess of the EPA reportable quantity is released off-site to air, water or land, immediately notify the National Response Center.

SECTION 6 - FIRST-AID PROCEDURES

EYE CONTACT: Immediately flush with water for at least 15 minutes. Remove contact lenses. Get medical attention.
SKIN CONTACT: Remove all contaminated clothing. Wash skin with soap and water. Get medical attention if indicated.
INHALATION: Remove victim to fresh air. Give artificial respiration or oxygen if needed. Get medical attention if indicated.
INGESTION: If this product is swallowed, call a physician or poison control center immediately. For quick response, the individual should drink milk or large quantities of water. Only induce vomiting as directed by medical personnel. NEVER give anything by mouth to an unconscious person.

ITEM NUMBER: 15-00530-1P
ITEM DESCRIPTION: **Blue Etch CCRC (1g1)**
REVISION DATE: 09/29/99

SECTION 7 - FIRE AND EXPLOSION INFORMATION

AUTOIGNITION TEMP: unknown
EXPLOSIVE LIMITS IN AIR: unknown
EXTINGUISHING AGENTS: Use the following media when fighting fires: water spray, CO2, dry chemical, foam.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Use self-contained breathing apparatus and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION 8 - REACTIVITY INFORMATION

STABILITY: Stable
CONDITIONS TO AVOID: None
INCOMPATIBILITY (Materials to avoid): Oxidizing materials can cause a reaction.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon upon combustion.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9 - HANDLING & STORAGE PROCEDURES

EYE PROTECTION: Chemical safety splash goggles.
SKIN PROTECTION: Neoprene or natural rubber gloves should be worn.
VENTILATION REQUIREMENTS: General mechanical ventilation of area is recommended.
RESPIRATORY PROTECTION: NIOSH recommended if above TLV.
STORAGE PRECAUTIONS: Protect against physical damage to containers. Store in a cool, well ventilated area. Keep away from heat and oxidizing materials. Keep out of the reach of children. For industrial use only.
OTHER: Safety shower and eye wash should be available.

SECTION 10 - SPILL AND DISPOSAL INFORMATION

LARGE SPILLS: Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Use proper safety equipment. Contain spill and pump to suitable container. Wash area with suitable detergent and water. Thoroughly rinse area with water. Avoid direct discharge to sewers and surface waters.
SMALL SPILLS: Use absorbent material to collect spill and put in appropriate container for disposal. Wash area with suitable detergent and water. Thoroughly rinse area with water.
DISPOSAL METHOD: DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Use appropriate container and dispose in an approved, licensed site facility. NOTE: Dispose of all wastes in accordance with federal, state and local regulations.

IN CASE OF EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC 1-800-424-9300.

ITEM NUMBER: 15-00530-1P
ITEM DESCRIPTION: **Blue Etch CCRC (1gl)**
REVISION DATE: 09/29/99

SECTION 11 - TOXICOLOGY INFORMATION

	LD50 Rat, oral	LC50 Rat, inh.
Phosphoric acid	1530 mg/kg	N/E
n-Propyl Alcohol	1.87 g/kg	13058-14038 ppm/4hr

SECTION 12 - ECOLOGY INFORMATION

ALL WORK PRACTICES SHOULD BE AIMED AT PREVENTING ANY RELEASE TO THE ENVIRONMENT.

ENVIRONMENTAL STABILITY: All components of this product are stable in the environment. The solvents in this product may show significant environmental stability by absorption to soil.

EFFECT OF MATERIAL ON PLANTS OR ANIMALS: Impact on plants or animals will be the result of exposure to the solvent components. Plants may be stressed as a result of a large release to the environment. The following aquatic toxicity information as available for the components of this product.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No specific information is available on the effect of this product on aquatic life. The solvent components may cause significant harm to aquatic life, if released to bodies of water in large volume.

SECTION 13 - REGULATORY INFORMATION

Chemical Control Law Status: All components of this product are listed or are excluded from listing in Section 9 of the U.S. Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed or are excluded from listing on the DSL/NDSL Inventory.

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) as prescribed by Canadian (WHMIS) regulations.

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act and are listed as follows:

CHEMICAL NAME	SARA 302/304 (40CFR355)	SARA 311/312 (40CFR355)	SARA 313 (40CFR372)
Phosphoric Acid	No	Yes	Yes
n-Propyl Alcohol	No	Yes	No

ITEM NUMBER: 15-00530-1P
ITEM DESCRIPTION: **Blue Etch CCRC (1gl)**
REVISION DATE: 09/29/99

SECTION 14 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME: COMPOUNDS, CLEANING LIQUID
HAZARDOUS CONTENTS: NONREGULATED
DOT HAZARD CLASS:
ID NUMBER:
PACKAGING TYPE:

The exception for combustible liquids are applicable to non bulk shipments [under 450L (119 gal.)], unless the shipment is via vessel or aircraft. Refer to 49 CFR 173.150 for additional information.

MARINE POLLUTANT: This product does not contain any components which are designed by the Department of Transportation to be marine pollutants per 49 CFR 172.101 Appendix B.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATION: This material is not considered as dangerous goods. The flash point is above 60 deg. C (140 F), and the liquid is not regulated under TC standards.

SECTION 15 - ADDITIONAL INFORMATION

None currently available.

SECTION 16 - END OF DOCUMENT

END OF DOCUMENT

NOTE: This MSDS supercedes all previously dated MSDS for this product.

DISCLAIMER: The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.

END OF DOCUMENT

[According to OSHA Hazard Communication Standard (HCS) 29 CFR 1910.1200]

SECTION 1. IDENTIFICATION

PRODUCT INFORMATION

PRODUCT NUMBER : 22-12053
TRADEMARK : BNSF MINERAL BROWN
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY : WATER EMULSION AIR DRY COATING
DESCRIPTION : Non-Flammable Water Emulsion Coatings

APPLICATION : WATER SOLUBLE PAINT USED IN THE PROCESS OF STEEL STRUCTURE PAINTING. FOR PROFESSIONAL USE.

SUPPLIER INFORMATION

MANUFACTURER : Williams-Hayward Protective Coatings, Inc.
Address : 7425 West 59th Street
Summit IL 60501 USA
Telephone : 708-458-0015
Emergency Phone : 800-424-9300 (CHEMTREC)

SECTION 2. HAZARD(S) IDENTIFICATION

PRODUCT DEFINITION: Mixture

GHS CLASSIFICATION

Acute Toxicity (oral, dermal, inhalation), category 4
Skin Irritation, category 2
Eye Irritation, category 2
Skin Sensitization, category 1

LABEL ELEMENTS

HAZARD PICTOGRAMS:

SIGNAL WORD : WARNING

HAZARD STATEMENTS: CONTAINS COMPOUNDS HARMFUL IF SWALLOWED

PRECAUTIONARY STATEMENTS:
FOR PROFESSIONAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SECTION 2. HAZARD(S) IDENTIFICATION

PREVENTION : COMBUSTIBLE. Keep away from heat and open flame.
Avoid prolonged contact with skin and breathing of vapor or spray mist.
Use with adequate ventilation.
RESPONSE : Wash thoroughly after handling.
Close container after each use.
DISPOSAL : Dispose of in accordance with all local, regional, national, and international regulations.
HAZARDOUS INGREDIENTS:
Not applicable

SPECIAL PACKAGING REQUIREMENTS
CONTAINERS TO BE FITTED WITH CHILD-RESISTANT FASTENINGS:
Not applicable
TACTILE WARNING OF DANGER:
Not applicable

OTHER HAZARDS

THREAT TO HUMANS
Adherence to the general work hygiene and safety rules guarantees that the product does not create any threat to human life and health.

THREAT TO THE NATURAL ENVIRONMENT
See Section 12 for environmental threats

OTHER THREATS
Non existent

SECTION 3. COMPOSITION, INFORMATION ON INGREDIENTS

MIXTURE

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT
WATER (NON-HAZARDOUS)	7732-18-5	31-60
ESTER-ALCOHOL	25265-77-4	1-15

SECTION 4. FIRST AID MEASURES

GENERAL NOTES
All of the safety notes and recommendations listed on product label should be adhered to. The effects of exposure are listed in section 11 of this document.

FIRST-AID INSTRUCTIONS

SKIN CONTACT
Wash with soap and water. An emollient cream or lotion is beneficial. Remove clothing which has come in direct contact with the product. If irritation occurs, call a physician.

EYE CONTACT
Wash with plenty of water for 10 to 15 minutes. Protect the eye which has not been subject to irritation, take out contact lenses. If eye irritation occurs, call an optician.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.

INGESTION
DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN. Wash mouth with water. Drink water. Never apply anything to the mouth of an unconscious person.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND CHRONIC

ACUTE

SKIN CONTACT	: No known significant effects or critical hazards
EYE CONTACT	: No known significant effects or critical hazards
INHALATION	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
INGESTION	: No known significant effects or critical hazards

CHRONIC

SKIN CONTACT	: Prolonged contact may cause irritation
EYE CONTACT	: No specific data
INHALATION	: No specific data
INGESTION	: No specific data

RECOMMENDATIONS FOR IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NOTES TO PHYSICIAN:
If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SPECIFIC TREATMENTS: No specific treatment

SECTION 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

EXTINGUISHING MEDIA:
Fire powder, carbon dioxide, sprayed water stream

IMPROPER MEANS OF EXTINGUISHING:
Compact water stream - the risk of spreading fire.

SPECIFIC HAZARDS DURING FIRE

THE DANGEROUS PRODUCTS OF THE BURNING PROCESS:
The occurrence of fire may produce dangerous gases: sulphur oxides, nitrogen oxides as well as low particle mass carbohydrates. In the case of stove systems formaldehyde and ammonium may also be produced. Refrain from inhaling the combustion products as they may impose a threat to human health.

ADDITIONAL INFORMATION:
The product is not flammable. Acrylic emulsions are non-flammable substances. They may splatter if temperature exceeds 100C. Dried polymer films are capable of burning. All of the containers which are endangered by fire should be cooled within the safe distances with the well distributed stream of water.

ADVICE FOR FIREFIGHTERS

PARTICULAR EQUIPMENT IN THE PROCESS OF FIRE FIGHTING:
Means of protection are standard in the case of the occurrence of fire. Do not remain in the area endangered by fire spreading without the proper chemical protective clothing as well as without the breathing apparatus equipped with an independent air system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

INDIVIDUAL MEANS OF PROTECTION:
The general principles of hygiene and safety should be adhered to. Block the passer-by access. Ensure proper ventilation. Avoid direct contact with the product.
Do not breathe in vapors.

ENVIRONMENTAL PRECAUTIONS

THE INDISPENSABLE MEANS OF NATURAL ENVIRONMENT PROTECTION
Do not allow for the product to enter the ground and underground water sewerage installation system. If a large amount is spilled in the natural environment, take the steps necessary to limit the spreading within the natural environment.
Inform proper rescue teams.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Emulsions can be coagulated by stepwise addition of lime and ferric sulphate until all of the water has been completely absorbed. The collected material should be treated as waste. Proceed in accordance with local, state, and federal regulations. Clean the polluted location.

ATTENTION! Floor may be slippery. Care should be exercised to avoid falls.

REFERENCE TO OTHER SECTIONS

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

SUBSTANCE HANDLING:
Use the product in accordance with the safety and hygiene principles, only in well-ventilated rooms. In each case of exposure, before the break as well as after the completion of work, carefully wash hands with soap and water. Do not inhale the product. Apply means of personal protection, which are in compliance with Section 8 of this document.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORAGE:
Store in original, tight containers only, in dry and well-ventilated locations. Recommended storage temperature 4-37C. Do not allow the substance to freeze. Store only inside buildings.

SECTION 7. HANDLING AND STORAGE

SPECIFIC END USE(S)

SPECIFIC APPLICATIONS:
Acrylic latex emulsion, single ingredient, water soluble paint. To be applied directly upon metal or with the application of ground preparation coat. For professional use only.

MISCELLANEOUS:
Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

INGREDIENT DESCRIPTION	CAS NUMBER	EXPOSURE LIMITS
ESTER-ALCOHOL	25265-77-4	ACGIH TLV: 835.00 UG/M3 OSHA PEL: NR

EXPOSURE CONTROLS

EXPOSURE CONTROL WITHIN THE WORK PLACE
Adhere to the general principles of hygiene and safety. Do not eat, drink, or smoke tobacco during the execution of work. Before the break and after completion of work. Carefully wash hands. Ensure that the workplace is ventilated or the whole room is ventilated in order for the concentration of the harmful agent within the air is below the allowable concentration limit. Avoid eye and skin contact.

ATTENTION! Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

PRECAUTIONS:
Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

SKIN PROTECTION:
Use protective, impermeable gloves. The choice of proper gloves does not only depend on the material but also on other quality characteristics and is subject to change depending on the manufacturer. Gloves should be changed frequently and immediately replaced should any signs of wear, damage, or change of their looks (color, shape, flexibility) occur.

EYE PROTECTION:
Apply tight, protective goggles. Splash-proof safety goggles (ANSI Z87.1, 1968).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator (TC19C NIOSH/MSHA) is recommended.

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	200 TO 900 (deg F)	% VOLATILE (VOLUME):	61.55
	93 TO 482 (deg C)	% NVM (WEIGHT) :	42.40
VAPOR DENSITY:	HEAVIER THAN AIR	% NVM (VOLUME) :	38.44
EVAP RATE :	SLOWER THAN BUTYL ACETATE		
DENSITY :	8.81 (lb/gl)		
:	1056.03 (gr/l)		
APPEARANCE :	RED IN COLOR		
ODOR :	SLIGHT AMINE ODOR		
WATER SOLUBLE:	YES		

OTHER INFORMATION

SOLVENTS :	8.285 (lb/gl)	VOC (as shipped):	.77 (lb/gl)
:	992.54 (gr/l)	:	92.24 (gr/l)

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY
No specific test data related to reactivity available for this product or its ingredients

CHEMICAL STABILITY
Stable.

OTHER
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID
Non Applicable.

INCOMPATIBLE MATERIALS
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

SECTION 11. TOXICOLOGICAL INFORMATION

INGREDIENT DESCRIPTION	CAS NUMBER	TOXICOLOGICAL DATA
ESTER-ALCOHOL	25265-77-4	LC50: Inhalation, (RAT) 6H:>3.55mg/l LD50: Oral, (RAT), 6517 MG/KG LD50: (MALE MOUSE), 1600-3200 MG/KG

TARGET ORGANS:
eyes, skin, nose, respiratory system, central nervous system

EFFECTS OF OVEREXPOSURE:

INHALATION	Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect
EYE CONTACT	Slightly irritating to eyes.
SKIN CONTACT	Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY:
Dermal, Inhalation, Ingestion.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

ECO-TOXICITY:
This product contains chemicals which are harmful to fish.

MOBILITY IN SOIL

This product dissolves in water and spreads through the environment.

ADDITIONAL INFORMATION

Large product quantities should be protected against accessing surface waters, sewerage system and soil.

Ecotoxicological information on this product's components appear in this section when such data is available

2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE

ACUTE AQUATIC EFFECTS DATA:
96h LC50 (fathead minnow): 33 mg/l NOEC: 16 mg/l
96h LC50 (sideswimmer): > 95 mg/l (highest concentration tested)
48h EC50 (daphnid): 147.8 mg/l NOEC: 28.4 mg/l
96h LC50 (pill bug): > 95 mg/l (highest concentration tested)
96h LC50 (flatworm): 38 mg/l NOEC: 9.5 mg/l
96h LC50 (aquatic earthworm): 30.4 mg/l NOEC: 9.5 mg/l
96h LC50 (ramshorn snail): > 95 mg/l (highest concentration tested)
72h EC50 (Selenastrum capricornutum): 18.4 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

COMPOUND RECOMMENDATIONS:
This product is classified as a non-hazardous waste.

The waste product should be subject to recycling or should be removed within certified incineration facilities or waste recycling/processing plants, in accordance with the obligatory regulation. It should not be removed along with communal waste.The remnants should be stored in original containers. The waste code should be provided within the location of the waste processing.

RECOMMENDATIONS WITH REGARD TO THE PACKAGING:
Packaging, which may not be cleaned should be treated in the same manner as the product.

ENVIRONMENTAL PRECAUTIONS:
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

SECTION 14. TRANSPORT INFORMATION

The product is not classified as dangerous during land, sea, or air transport.

UN NUMBER
Not applicable

UN PROPER SHIPPING NAME
PAINT, NON-FLAMMABLE LIQUID

TRANSPORTATION HAZARD CLASS
Not applicable

PACKAGING GROUP
Not applicable

SPECIAL PRECAUTIONS FOR USER

TRANSPORT WITHIN USER'S PREMISES:
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15. REGULATORY INFORMATION

CHEMICAL SAFETY ASSESSMENT

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):

All components are either listed or are exempt from being listed on the EINECS chemical inventory

SECTION 16. OTHER INFORMATION

WORKSHOPS:
Prior to working with this product, the user should get acquainted with the health and safety regulations regarding chemical handling, and proper use in the workplace.

ADDITIONAL INFORMATION:
Product classification has been agreed based upon the actual concentration of each of the components as it presents real threats, which are imposed by this product. The real value of the concentrations of particular components always fits within the proper range. Therefore, for that reason final product classification may be different from the calculated classification based upon the general concentration values.

(NDS) Highest Allowable Concentration

HMIS RATING: H F R PP
2 0 0 J

MANUFACTURER'S NAME:
Williams-Hayward Protective Coatings, Inc
7425 West 59th Street
Summit, IL 60501

EMERGENCY TELEPHONE:
800-424-9300

INFORMATION TELEPHONE:
708-458-0015

EFFECTIVE DATE: 08/17/11

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER : 22-12053
PRODUCT NAME : BNSF MINERAL BROWN
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY: WATER EMULSION AIR DRY COATING

HMIS RATING: H F R PP
2 0 0 J

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT	ACGIH TLV	OSHA PEL AND OTHER EXPOSURE LIMITS
WATER (NON-HAZARDOUS)	7732-18-5	49.1	NR	NR
ESTER-ALCOHOL	25265-77-4	6.1	835.00 UG/M3	NR

RCRA TRACE ELEMENTS

SECTION III - PHYSICAL DATA

BOILING RANGE: 167 TO 999 (deg F)
75 TO 537 (deg C)
VAPOR DENSITY: HEAVIER THAN AIR
EVAP RATE : SLOWER THAN BUTYL ACETATE
DENSITY : 8.81 (lb/gl)
: 1.05 (kg/l)
SOLVENTS : 8.285 (lb/gl)
: .99 (kg/l)

% VOLATILE (VOLUME): 61.55
% NVM (WEIGHT) : 42.40
% NVM (VOLUME) : 38.44
VOC (less water): 1.60 (lb/gl)
: 192.27 (gr/l)
VOC (as shipped): .77 (lb/gl)
: 92.24 (gr/l)

APPEARANCE : RED IN COLOR
ODOR : SLIGHT AMINE ODOR
WATER SOLUBLE: YES

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: PAINT,NON FLAMMABLE LIQUID

FLASH POINT: NOT APPLICABLE LEL: N/A UEL: N/A

EXTINGUISHING MEDIA:
For dried film: Carbon Dioxide, dry chemical and water fog.

UNUSUAL FIRE AND EXPLOSION DATA:
Acrylic emulsions will not burn. They may splatter if temperature exceeds boiling point (212 degrees F, 100 degrees C). Dried polymer films are capable of burning.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
INHALATION: Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect
EYE CONTACT: Slightly irritating to eyes.
SKIN CONTACT: Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY: Dermal, Inhalation, Ingestion.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:
Allergy, Asthma, Bronchitis, Emphysema.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION	Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.
EYE CONTACT	Wash with plenty of water for 5 minutes.
SKIN CONTACT	Wash with soap and water. An emollient cream or lotion is beneficial.
INGESTION	DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN.

SECTION VI - REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

CONDITIONS TO AVOID: Non Applicable.

INCOMPATIBILITY (MATERIALS TO AVOID):
Avoid contact with strong oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Floor may be slippery. Care should be exercised to avoid falls.

NOTE: Emulsions can be coagulated by stepwise addition of lime and ferric sulfate to clear water end point.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state, and federal regulations.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator(TC19C NIOSH/MSHA) is recommended.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

PROTECTIVE GLOVES:
Usual hand protection for paint application

EYE PROTECTION:
Splash-proof safety goggles (ANSI Z87.1, 1968).

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Indoor:	YES	Refrigerated:	NO
Heated:	YES	Outdoor:	NO

Storage Temperature: Max. 100 F Min. 40 F
Max. 37 C Min. 4 C

OTHER PRECAUTIONS:

Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

MISCELLANEOUS:

Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION X - OTHER INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):

All components are either listed or are exempt from being listed on the EINECS chemical inventory

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **BRAKLEEN (AEROSOL)**

Synonym(s) CRC BRAKLEEN (AEROSOL) (FORMERLY) • SOLVENT BRAKE CLEANER

1.2 Uses and uses advised against

Use(s) BRAKE CLEANER • CLEANING AGENT

1.3 Details of the supplier of the product

Supplier name **CRC INDUSTRIES (AUST) PTY LIMITED**

Address 9 Gladstone Road, Castle Hill, NSW, 2154, AUSTRALIA

Telephone (02) 9849 6700

Fax (02) 9680 4914

Email info@crcind.com.au

Website www.crcindustries.com.au

1.4 Emergency telephone number(s)

Emergency 13 11 26 (PIC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s)
Aquatic Toxicity (Chronic): Category 2
Carcinogenicity: Category 2
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3
Aerosols: Category 1

2.2 Label elements

Signal word **DANGER**

Pictogram(s)

Hazard statement(s)

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.

Prevention statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.

Response statement(s)

P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P391	Collect spillage.

Storage statement(s)

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	64742-49-0	265-151-9	30 to 60%
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	127-18-4	204-825-9	30 to 60%
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	200-838-9	10 to 30%
PETROLEUM GASES, LIQUEFIED	68476-85-7	270-704-2	10 to 30%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

First aid facilities No information provided.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

5.2 Special hazards arising from the substance or mixture

Highly flammable. May evolve toxic gases (chlorides, fluorides, phosgene, carbon oxides, hydrocarbons) when heated to decomposition. Vapour may form explosive mixtures with air. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, pilot lights, heaters, naked lights, etc when handling. Aerosol cans may explode when heated above 50°C.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

2YE

2 Fine Water Spray.

Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

E Evacuation of people in and around the immediate vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool (< 50°C), dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure aerosol containers/ cans are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for damaged/ leaking containers. Large storage areas should have appropriate fire protection systems.

7.3 Specific end use(s)

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Liquefied petroleum gas (LPG)	SWA (AUS)	1000	1800	1000	1800
Methylene chloride	SWA (AUS)	50	174	--	--
Mineral Oil Mist	SWA (AUS)	--	5	--	--
Perchloroethylene	SWA (AUS)	50	340	150	1020

Biological limits

Ingredient	Determinant	Sampling Time	BEI
DICHLOROMETHANE (METHYLENE CHLORIDE)	Dichloromethane in urine	End of shift	0.3 mg/L
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	Tetrachloroethylene in end-exhaled air	Prior to shift	3 ppm
	Tetrachloroethylene in blood	Prior to shift	0.5 mg/L

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face Wear splash-proof goggles.

Hands Wear PVA or viton (R) gloves.

Body When using large quantities or where heavy contamination is likely, wear coveralls.

Respiratory Where an inhalation risk exists, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator. Where the boiling point is < 65°C, use an AX filter type.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	CLEAR COLOURLESS LIQUID (AEROSOL DISPENSED)
Odour	ETHEREAL ODOUR
Flammability	HIGHLY FLAMMABLE
Flash point	10°C
Boiling point	40°C (Initial)
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	> 1 (Air = 1)
Specific gravity	1.07
Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	26.6 kPa @ 20°C
Upper explosion limit	22 %
Lower explosion limit	1.4 %
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	100 %

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability
No information provided.

10.3 Possibility of hazardous reactions
No information provided.

10.4 Conditions to avoid
No information provided.

10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), metals, heat and ignition sources. Will attack most forms of plastics.

10.6 Hazardous decomposition products
May evolve toxic gases (chlorides, fluorides, phosgene, carbon oxides, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Health hazard summary
Harmful - irritant. This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in central nervous system (CNS), liver, kidney and lung damage. Tetrachloroethylene is classified as probably carcinogenic to humans (IARC Group 2A). Dichloromethane is classified as possibly carcinogenic to humans (IARC Group 2B). Individuals with pre-existing respiratory impairment (eg asthmatics) or nervous system, liver and kidney disease are advised to avoid exposure.

Eye
Irritant. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.

Inhalation
Harmful - irritant. Over exposure may result in irritation of the nose and throat, coughing, nausea, dizziness and headache. High level exposure may result in breathing difficulties, anaesthesia, cardiac arrhythmias, pulmonary oedema, unconsciousness and possible respiratory failure. Chronic exposure may result in liver, kidney and CNS damage.

Skin
Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects.

Ingestion
Toxic - irritant. Ingestion may result in nausea, vomiting, abdominal pain, dizziness, fatigue and diarrhoea. Ingestion of large quantities may result in liver and kidney damage, and unconsciousness. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema.

Toxicity data

TETRACHLOROETHYLENE (PERCHLOROETHYLENE) (127-18-4)

LCLo (inhalation)	4000 ppm/4 hour (rat)
LD50 (ingestion)	2629 mg/kg (rat)
LD50 (intraperitoneal)	2100 mg/kg (dog)
LD50 (skin)	65 gm/kg (mouse)
LDLo (ingestion)	4000 mg/kg (dog)
LDLo (subcutaneous)	2200 mg/kg (rabbit)
TDLo (ingestion)	195 g/kg/50 Weeks intermittent (mouse - cancer)

DICHLOROMETHANE (METHYLENE CHLORIDE) (75-09-2)

LC50 (inhalation)	52 g/m³ (rat)
LCLo (inhalation)	5000 ppm/2 hours (guinea pig)
LD50 (ingestion)	1600 mg/kg (rat)
LD50 (subcutaneous)	6460 mg/kg (mouse)
LDLo (ingestion)	357 mg/kg human (CNS effects)
LDLo (subcutaneous)	2700 mg/kg (rabbit)
TCLo (inhalation)	500 ppm/8 hours (human - euphoria)

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2 Persistence and degradability
If dichloromethane released into the atmosphere will degrade by reaction with hydroxyl radicals (half life: 19 to 194 days). Dichloromethane evaporates from the near surface soil and water surface. Biodegradation is possible but will probably be quite slow when compared with the evaporation rate.

12.3 Bioaccumulative potential
No information provided.

12.4 Mobility in soil
No information provided.

12.5 Other adverse effects
No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Waste disposal For small amounts, absorb contents with sand or similar and dispose of to an approved landfill site. Do not puncture or incinerate aerosol cans. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1950	1950	1950
14.2 Proper Shipping Name	AEROSOLS	AEROSOLS	AEROSOLS
14.3 Transport hazard class	2.1	2.1	2.1
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code 2YE

GTEPG 2D1

EMS F-D, S-U

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Poison schedule Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes

Carc.	Carcinogen
F	Flammable
N	Dangerous for the environment
Xn	Harmful

Risk phrases

R11	Highly flammable.
R40	Limited evidence of a carcinogenic effect.
R51/53	Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
R67	Vapours may cause drowsiness and dizziness.

Safety phrases	S23	Do not breathe gas/fumes/vapour/spray (where applicable).
	S24/25	Avoid contact with skin and eyes.
	S36/37	Wear suitable protective clothing and gloves.
	S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
	S53	Avoid exposure - obtain special instructions before use.

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information

WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

SYNERGISM - ANTAGONISM: Ingredients in this product may act together to aggravate or reduce adverse effects. Accordingly the time weighted average concentration (TWA) provided for single ingredients should be considered as a guide only and all due care exercised when handling.

IARC GROUP 2B - POSSIBLE HUMAN CARCINOGEN. This product contains an ingredient which has demonstrated sufficient evidence to have been classified by the International Agency for Research into Cancer (IARC) as possibly carcinogenic to humans and whose use should be strictly monitored and controlled.

DICHLOROMETHANE VAPOUR may only produce a flammable mixture with air in a vacuum (1.7 bar @ 27°C). It may produce a flammable mixture with pure oxygen between 15.5% and 66.4% dichloromethane.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Revision history

Revision	Description
2.0	GHS classifications provided.
1.0	Initial SDS creation

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

Prepared by

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Revision: 2
SDS date: 12 February 2015

[End of SDS]

SAFETY DATA SHEET

1. Identification

Product identifier	**Brakleen® Brake Parts Cleaner**
Other means of identification	
Product code	05089, 05089T, 85089, 85089AZ
Recommended use	Brake cleaner
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. May cause drowsiness or dizziness. May cause cancer. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Avoid breathing gas. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If exposed or concerned: Get medical attention. Collect spillage.
Storage	Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Tetrachloroethylene	Perchloroethylene	127-18-4	90 - 100
Carbon dioxide		124-38-9	1 - 5

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical, CO2, or water spray.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Exposure to high temperature may cause can to burst. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Collect spillage. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Do not handle or store near an open flame, heat or other sources of ignition. Exposure to high temperature may cause can to burst. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Tetrachloroethylene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Tetrachloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Tetrachloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

US - Minnesota Haz Subs: Skin designation applies

Tetrachloroethylene (CAS 127-18-4)	Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower should be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Viton®. Polyvinyl alcohol (PVA). Nitrile. Silver Shield®

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Irritating.

Odor threshold 50 ppm

pH Not available.

Melting point/freezing point -8.1 °F (-22.3 °C) estimated

Initial boiling point and boiling range 250.3 °F (121.3 °C) estimated

Flash point None (Tag Closed Cup)

Evaporation rate Very fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapor pressure 1352.4 hPa estimated

Vapor density 5.76 (air = 1)

Relative density 1.62

Solubility (water) 0.02 % (77 °F (25 °C))

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity (kinematic) Not available.

Percent volatile 97.7 % estimated

Other information

Partition coefficient (oil/water) 2.88

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Hydrogen chloride. Trace amounts of chlorine and phosgene. Carbon oxides. Halogenated materials. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Narcotic effects.

Product	Species	Test Results
Brakleen® Brake Parts Cleaner		
Acute		
Dermal		
LD50	Rabbit	3305 mg/kg estimated
Inhalation		
LC50	Rat	20 mg/l, 4 Hours estimated
Oral		
LD50	Rat	2692 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Tetrachloroethylene (CAS 127-18-4) 2A Probably carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Tetrachloroethylene (CAS 127-18-4) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
Brakleen® Brake Parts Cleaner			
Aquatic			
Fish	LC50	Fish	19.1805 mg/l, 96 hours estimated

Components		Species	Test Results
Tetrachloroethylene (CAS 127-18-4)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.73 - 5.27 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

Tetrachloroethylene	2.88

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This material and its container must be disposed of as hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D039: Waste Tetrachloroethylene
F001: Waste Halogenated Solvent - Spent Halogenated Solvent Used in Degreasing
F002: Waste Halogenated Solvent - Spent Halogenated Solvent

US RCRA Hazardous Waste U List: Reference

Tetrachloroethylene (CAS 127-18-4)	U210

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, poison, Packing Group III, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	6.1(PGIII)
Label(s)	2.2, 6.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	6.1
Packing group	Not applicable.

Environmental hazards	No.
ERG Code	2P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2
Subsidiary risk	6.1
Packaing group	Not applicable.
Environmental hazards	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Tetrachloroethylene (CAS 127-18-4)	LISTED

CERCLA Hazardous Substance List (40 CFR 302.4)

Tetrachloroethylene (CAS 127-18-4)	Listed.

CERCLA Hazardous Substances: Reportable quantity

Tetrachloroethylene (CAS 127-18-4)	100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Tetrachloroethylene (CAS 127-18-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Tetrachloroethylene (CAS 127-18-4)

US. New Jersey Worker and Community Right-to-Know Act

Carbon dioxide (CAS 124-38-9)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9)
Tetrachloroethylene (CAS 127-18-4)

US. New Jersey Worker and Community Right-to-Know Act

Tetrachloroethylene (CAS 127-18-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Tetrachloroethylene (CAS 127-18-4)

US. Rhode Island RTK

Tetrachloroethylene (CAS 127-18-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon dioxide (CAS 124-38-9)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Tetrachloroethylene (CAS 127-18-4) Listed: April 1, 1988

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	0 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a Brake Cleaner. This product is not compliant to be sold for use in California and New Jersey. This product is compliant in all other states.
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	12-20-2013
Revision date	10-29-2015
Prepared by	Allison Cho
Version #	03
Further information	CRC # 491G

HMIS® ratings

Health: 2*
Flammability: 0
Physical hazard: 0
Personal protection: B

NFPA ratings

Health: 2
Flammability: 0
Instability: 0

NFPA ratings

Disclaimer

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BRITE ALUME
PRODUCT NUMBER: 207
PRODUCT FAMILY: ACID DETERGENT
MANUFACTURER: KO MANUFACTURING, INC
2720 E. DIVISION STREET
SPRINGFIELD, MO 65803
417-866-8000
INFORMATION USE: ACIDIC CLEANER

DATE PREPARED: 1/2/2015
SUPERCEDED DATE: 5/1/2014

EMERGENCY CONTACT:
CHEMTREC 800-424-9300

2. HAZARD IDENTIFICATION

DOT HAZARD CLASSIFICATION: CORROSIVE LIQUID, TOXIC
SIGNAL WORD: DANGER!
ROUTE OF EXPOSURE: EYE CONTACT, SKIN CONTACT, INGESTION, INHALATION
GHS HEALTH CLASSIFICATION: ACUTE TOXICITY, ORAL 2
ACUTE TOXICITY, DERMAL 2
ACUTE TOXICITY, INHALATION 3
SKIN CORROSION 1B
EYE DAMAGE/IRRITATION 1
AQUATIC ACUTE TOXICITY 3

NFPA

GHS LABEL ELEMENTS:
H290 - May be corrosive to metal.
H300 - Fatal if swallowed.
H310 - Fatal in contact with skin.
H330 - Fatal if inhaled.
H314 - Causes severe skin burns and eye damage
H402 - Harmful to aquatic life.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/boots/clothing/eye protection/face protection.
P301+P310+P330+P331 - IF SWALLOWED: Immediately call POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
P302+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water.
P363 - Wash contaminated clothing before reuse.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390 - Absorb spillage to prevent material damage.
P403 - Store in a dry place.
P404+P233+P234+P405 - Store in a well-ventilated place. Keep container tightly closed. Keep only in original container. Store locked up.
P406 - Store in corrosive resistant HDPE plastic container.
P501 - Dispose of contents/container in accordance with local/regional/national regulations.

PICTOGRAMS

3.COMPOSITION IDENTIFICATION

INGREDIENTS:	C.A.S. NUMBER:	PERCENT:
HYDROFLUORIC ACID	7664-39-3	<6.0%
SULFURIC ACID	7664-93-9	<25.0%
PHOSPHORIC ACID	7664-38-2	<5.0%
ALCOHOL ETHOXYLATES	68439-46-3	<5.0%
COCO BETAINE	61789-40-0	<5.0%
WATER	7732-18-5	<80.0%

4. FIRST AID MEASURES

EYE CONTACT: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO SO. CONTINUE RINSING. CALL A PHYSICIAN IMMEDIATELY.

4. FIRST AID MEASURES - CONTINUED

SKIN CONTACT: WASH EXPOSED SKIN THOROUGHLY AFTER HANDELING. REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. GET MEDICAL ADVICE/ATTENTION EVEN IF LITTLE OR NO PAIN PERSISTS.

INGESTION: RINSE MOUTH. DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LAGE QUANTITIES OF WATER TO DRINK. CALL A POISON CENTER OR PHYSICIAN IMMEDIATELY.

INHALATION: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. CALL A POISON CENTER OR PHYSICIAN IMMEDIATELY.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: NON FLAMMABLE.

FLASH POINT: DOES NOT FLASH.

SUITABLE EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE, WATER SPRAY.

UNSUITABLE EXTINGUISHING MEDIA: NOT ESTABLISHED.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: NONE KNOWN.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: WEAR SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND MSHA/NIOSH APPPROVED) AND FULL PROTECTIVE GEAR.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: AVOID CONTACT WITH EYES AND SKIN. SPILL AREA MAY BE SLIPPERY. WEAR PROPER PROTECTIVE EQUIPMENT WHEN DEALING WITH RELEASE.

ENVIRONMENTAL PRECAUTIONS: CONTAIN SPILL TO AVOID RELEASE TO THE ENVIRONMENT. KEEP CONTAINER TIGHTLY CLOSED.

METHODS FOR CONTAINMENT AND CLEAN-UP: DIKE AND CONTAIN SPILL. COLLECT LIQUID WITH AN INERT ABSORBENT AND TRANSFER TO CONTAINER FOR REUSE OR DISPOSAL.

7. HANDLING AND STORAGE

HANDLING: HANDLE WITH CARE AND AVOID CONTACT WITH EYES AND SKIN. ALWAYS WEAR PROPER CHEMICAL RESISTANT PROTECTIVE EQUIPMENT 29CFR1910.132-138. WASH THOROUGHLY AFTER HANDLING.

STORAGE: AVOID RELEASE TO THE ENVIRONMENT. STORE IN LOCKED STORAGE USING CORROSIVE RESISTANT CONTAINERS. KEEP OUT OF REACH OF CHILDREN.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: IF MIST LEVELS ARE HIGH SPECIAL VENTILATION MAY BE REQUIRED.

EYE / FACE PROTECTION: CHEMICAL GOGGLES AND FULL FACE SHIELD.

SKIN PROTECTION: CHEMICAL RESISTANT GLOVES, APRON AND BOOTS.

THRESHOLD LIMIT VALUE (TLV): HYDROFLUORIC ACID, 0.5 MG/M^3; SULFURIC ACID, 0.2 MG/M^3; PHOSPHORIC ACID, 1 MG/M^3

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: LIQUID.

APPEARANCE: CLEAR PINK LIQUID.

ODOR: ACID SCENT.

BOILING POINT: NOT ESTABLISHED.

FREEZING POINT: NOT ESTABLISHED.

SPECIFIC GRAVITY: 1.07

pH (1%): 1.0-2.0

EVAPORATION RATE: LESS THAN 1.

FLASH POINT: DOES NOT FLASH.

LOWER FLAMMABILITY/EXPLOSIVE LIMIT: NOT ESTABLISHED.

UPPER FLAMMABLE/EXPLOSIVE LIMIT: NOT ESTABLISHED.

AUTO-IGNITION TEMPERATURE: NOT ESTABLISHED.

VISCOSITY: NOT ESTABLISHED.

REALITIVE DENSITY: 8.9 LBS./GL.

SOLUBILITY: SOLUBLE.

VAPOR PRESSURE: NOT ESTABLISHED.

VAPOR DENSITY: NOT ESTABLISHED.

DECOMPOSITION TEMPERATURE: NOT ESTABLISHED.

PARTICAL COEFFICIENT: N-OCTANOL/WATER NOT ESTABLISHED.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE.

CONDITIONS TO AVOID: NO UNUSUAL CONDITIONS.

INCOMPATIBLE MATERIALS: SOFT METALS. STRONG ALKALIES. DO NOT MIX WITH OTHER CHEMICALS.
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND DIOXIDE WITH THERMAL DECOMPOSITION.

11. TOXICOLOGICAL INFORMATION

EYE IRRITATION/CORROSION: CORROSIVE TO EYES AND SKIN.

EFFECTS OF SHORT-TERM EXPOSURE: IRRITATION OR BURNS TO EYES, SKIN AND MOUTH.

INGESTION: COULD CAUSE SYSTEMIC EFFECTS AND IN SOME CASES DEATH.

LD-50: NOT ESTABLISHED.

12.ECOLOGICAL IDENTIFICATION

ECOTOXICITY: NOT ESTABLISHED.

PERSISTENCE AND DEGRADABILITY: BIODEGRADABLE.

BIOACCUMULATION/ACCUMULATION: NOT ESTABLISHED.

13.DISPOSAL CONDITIONS

THIS MATERIAL WHEN DISCARDED IS A HAZARDOUS WASTE DEFINED BY 40CFR261. MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

14. TRANSPORTATION INFORMATION

GROUND SHIPPING INFORMATION:
UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (HYDROFLUORIC ACID, SULFURIC ACID), 8 (6.1), PGII.
WATER SHIPPING INFORMATION:
UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (HYDROFLUORIC ACID, SULFURIC ACID), 8 (6.1), PGII.
AIR SHIPPING INFORMATION:
UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., (HYDROFLUORIC ACID, SULFURIC ACID), 8 (6.1), PGII.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS:
TSCA (TOXIC SUBSTANCE CONTROL ACT): ALL COMPONENTS LISTED ON TSCA INVENTORY.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

313 REPORTABLE INGREDIENTS:	CAS NUMBER:	PERCENT:
HYDROFLUORIC ACID	7664-39-3	5.9%

STATE REGULATIONS: CALIFORNIA PROPOSITION 65 -THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS CURRENTLY LISTED.

INTERNATIONAL REGULATIONS: CLASS E CORROSIVE UNDER CANADIAN WHMIS; CLASS D-2A MATERIAL CAUSES TOXIC EFFECTS UNDER CANADIAN WHMIS

SECTION 15 NOTES: NONE.

16. OTHER INFORMATION

PHONE NUMBER: 417-866-8000

DATE OF PREPARATION: 1/2/2015

This document is generated for the purpose of distributing health, safety and environmental data. It is not a specification sheet nor should any displayed data be construed as a specification. The information provided in this Safety Data Sheet has been compiled from experience and data presented in various technical publications. Itis the user's responsibility to determine the suitability of this information for the adoption of safety precautions as may be necessary. We reserve the right to revise Safety Data Sheets at any time as new techincal information becomes available. The information contained herein is furnished without warranty of any kind.

Section I -- PRODUCT & COMPANY IDENTIFICATION

PRODUCT NUMBER BTK1
PRODUCT NAME BTK1, Part 1: NCP-2 Battery Terminal Protectors
HMIS CODES Health: 0, Flammability: 1, Reactivity: 0

MANUFACTURER'S NAME
The Noco® Company
Cleveland, OH 44122

EMERGENCY TELEPHONE NO.
(800) 424-9300
INFORMATION TELEPHONE NO.
(800) 456-6626

DATE OF PREPARATION
15-MARCH-2011

Section II -- HAZARDOUS INGREDIENTS

% by WT	CAS No.	INGREDIENT	PEL PPM	TLV PPM	TLV MG/M³	LEL
8	64741-95-3	Deasphalted Residuum	None	None	5MG/M³	None
1	64742-65-0	Solvent De-waxed	None	None	5MG/M³	None

SARA HAZARD: None (Not listed - Title III, Section 313)

CARCINOGENICITY: This product is not considered a suspected animal carcinogen by the National Toxicity Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration.

PURSUANT TO PROPOSITION 65: Certain raw materials used in making this product may contain small amounts of materials as impurities which are regulated by Proposition 65. See section X.

Section III -- PHYSICAL DATA

Boiling Range: Above 600 °F
Appearance & Odor: Red, lubricant-like
Volatile: Negligible
Vapor Density: Heavier than air
Solubility in Water: No
Specific Gravity: N/A
Evaporation Rate: Slower than ether

Section IV -- FIRE & EXPLOSION HAZARDS

FLASH POINT 532-COCF
LEL See section II

EXTINGUISHING MEDIA
Extinguish with dry chemical, CO2, water spray, foam, sand or earth and foam may cause frothing.

SPECIAL FIRE FIGHTING PROCEDURES
Wear self-contained breathing apparatus and protective clothing.

UNUSUAL HAZARDS
None known

Continued on page 2

Section V -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: (See section II Hazardous Ingredients)

ROUTES OF ENTRY

Inhalation: No
Skin: Yes
Ingestion: Yes

EFFECTS OF OVEREXPOSURE SKIN

This material may cause skin irritation. Prolonged or repeated contact may cause redness, burning, and dermatitis.

EYE

This material may cause eye irritation. Direct contact may cause burning, tearing and redness.

INGESTION

Ingestion on this material may cause irritation of the digestive tract.

CHRONIC

Cancer: no information found in standard references.

EMERGENCY AND FIRST AID PROCEDURES

Ingestion: If swallowed do no induce vomiting, give 2 or 3 cups of milk or water to drink. Seek medical attention.

Inhalation: If irritation of nose or throat develops, move away from source of exposure and into fresh air.

Eye Contact: For direct contact, flush the affected eye(s) with clean water. Seek medical attention.

Skin Contact: Do not use gasolines, thinners, or solvents to remove products from skin. Wipe material from skin and remove contaminated clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleaner. If irritation or redness develops and persists, seek medical attention.

Section VI -- REACTIVITY DATA

STABILITY

Stable

INCOMPATIBILITY

Avoid contact with strong oxidizing agents. Extended Exposure to high temperatures may cause decomposition.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition in the presence of air may yield major amounts of oxides of carbon and minor amounts of oxides of sulfur and nitrogen.

HAZARDOUS POLYMERIZATION

Will not occur

Section VII -- SPILL OR LEAKAGE PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wash down any excess liquid with water.

WASTE DISPOSAL METHOD

Dispose of product in accordance with local, county, state and federal regulations.

Continued on page 3

Section VIII -- SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION
None

PROTECTIVE GLOVES
Recommended for prolonged or repeated contact.

EYE PROTECTION
Safety glasses

VENTILATION
None

OTHER PROTECTIVE EQUIPMENT
None

Section IX -- SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Do not store near incompatible substances. (see section VI)

OTHER PRECAUTIONS
None

PURSUANT TO PROPOSITION 65
Proposition 65 applies to list of chemicals named by the Governor of California as carcinogens or reproductive toxins.
Warning requirements for specific chemicals take effect one year after they are added to the Governor's list. Other chemicals already added to the Governor's list will be regulated later under Proposition 65.

Section X -- HAZARDOUS MATERIAL IDENTIFICATION

Communication of physical property, health, and safety information is a key factor in our product safety program. With this information you can better fulfill your obligation to educate exposed personnel in the proper handling techniques required to maintain safety in the workplace. Listed in this section is NPCA-HMIS classification for this product.

HMIS CLASSIFICATION CODE
Health: 0 - Least Hazard
Flammability: 1 - Slight Hazard
Reactivity: 0 - Least Hazard
Personal Protection: B - Glasses and Gloves

Section I -- PRODUCT & COMPANY IDENTIFICATION

PRODUCT NUMBER BTK1
PRODUCT NAME BTK1, Part 2: Battery Clean-Up
HMIS CODES Health: 1, Flammability: 4, Reactivity: 0

MANUFACTURER'S NAME
The Noco® Company
Cleveland, OH 44122

EMERGENCY TELEPHONE NO.
(800) 424-9300
INFORMATION TELEPHONE NO.
(800) 456-6626

DATE OF PREPARATION
15-MARCH-2011

Section II -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
3	74-98-6	Propane		
		ACGIH TLV	2500 ppm	760 mm
		OSHA PEL	1000 ppm	
7	106-97-8	Butane		
		ACGIH TLV	800 ppm	760 mm
		OSHA PEL	800 ppm	
1	1333-86-4	Carbon Black		
		ACGIH TLV	3.5 mg/m^3	
		OSHA PEL	150 ppm	

Section III -- HAZARDOUS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE
Irritation of eyes, skin and upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

Section IV -- FIRST AID MEASURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Do not induce vomiting. Get medical attention immediately.

Continued on page 2

Section V -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Propellant <0 °F	1.9	9.5

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode (due to the build-up of pressure) when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decompositon products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section VI -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area. Remove with inert absorbent.

Section VII -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

Section VIII -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes.
Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Continued on page 3

Section IX -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	7.93 lb/gal 950 g/l	
SPECIFIC GRAVITY	0.95	
BOILING POINT	<0 - 213 °F	<-18 - 100 °C
MELTING POINT	Not available	
VOLATILE VOLUME	97 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS		
(VOC Theoretical) Volatile weight	9.86% Less Water and Federally Exempt Solvents	

Section X -- STABILITY AND REACTIVITY

STABILITY	Stable
CONDITIONS TO AVOID	None known
INCOMPATIBILITY	None known
HAZARDOUS DECOMPOSITION PRODUCTS	By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION	Will not occur

Section XI -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDOUS

No ingredient in this product is an IARC, NTP or OSHA list carcinogen. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane			
	LC50	RAT	4HR	Not Available
	LD50	RAT		Not Available
106-97-8	Butane			
	LC50	RAT	4HR	Not Available
	LD50	RAT		Not Available

Section XII -- ECOLOGICAL INFORMATION

ECOTOXICOLOGAL INFORMATION

No data available

Section XIII -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulation regarding pollution.

Section XIV -- TRANSPORT INFORMATION

No data available

Section XV -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Continued on page 4

Section XVI -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formatted, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Section I -- PRODUCT & COMPANY IDENTIFICATION

PRODUCT NUMBER BTK1
PRODUCT NAME BTK1, Part 3: NCP-2 Battery Corrosion Preventative
HMIS CODES Health: 2*, Flammability: 4, Reactivity: 0

MANUFACTURER'S NAME
The Noco® Company
Cleveland, OH 44122

EMERGENCY TELEPHONE NO.
(800) 424-9300
INFORMATION TELEPHONE NO.
(800) 456-6626

DATE OF PREPARATION
25-FEBRUARY-08

Section II -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
15	74-98-6	Propane		
		ACGIH TLV	2500 ppm	760 mm
		OSHA PEL	1000 ppm	
34	64742-62-7	Paraffinic Mineral Oil		
		ACGIH TLV	5 mg/m^3 as Mist	
		OSHA PEL	5 mg/m^3 as Mist	
0.7	100-41-4	Ethylbenzene		
		ACGIH TLV	100 ppm	7.1 mm
		ACGIH TLV	125 ppm STEL	
		OSHA PEL	100 ppm	
		OSHA PEL	125 ppm STEL	
4	1330-20-7	Xylene		
		ACGIH TLV	100 ppm	5.9 mm
		ACGIH TLV	150 ppm STEL	
		OSHA PEL	100 ppm	
		OSHA PEL	150 ppm STEL	
20	67-64-1	Acetone		
		ACGIH TLV	500 ppm	180 mm
		ACGIH TLV	750 ppm STEL	
		OSHA PEL	1000 ppm	
20	78-93-3	Methyl Ethyl Ketone		
		ACGIH TLV	200 ppm	70 mm
		ACGIH TLV	300 ppm STEL	
		OSHA PEL	200 ppm	
		OSHA PEL	300 ppm STEL	

Section III -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

Continued on page 2

Section IV -- FIRST AID MEASURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Do not induce vomiting. Get medical attention immediately.

Section V -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Propellant <0 °F	1.0	12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section VI -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area. Remove with inert absorbent.

Section VII -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

Section VIII -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes.
Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

Continued on page 3

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section IX -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.35 lb/gal	761 g/l
SPECIFIC GRAVITY	0.76	
BOILING POINT	<0 - 292 °F	<-18 - 144 °C
MELTING POINT	Not available	
VOLATILE VOLUME	65 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS	VOC Theoretical	
Volatile weight	40.00% Less Water and Federally Exempt Solvents	

Section X -- STABILITY AND REACTIVITY

STABILITY	Stable
CONDITIONS TO AVOID	None known
INCOMPATIBILITY	None known
HAZARDOUS DECOMPOSITION PRODUCTS	By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION	Will not occur

Section XI -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDOUS

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane			
	LC50	RAT	4HR	Not Available
	LD50	RAT		Not Available
64742-62-7	Paraffinic Mineral Oil			
	LC50	RAT	4HR	Not Available
	LD50	RAT		Not Available
100-41-4	Ethylbenzene			
	LC50	RAT	4HR	Not Available
	LD50	RAT		3500 mg/kg
1330-20-7	Xylene			
	LC50	RAT	4HR	5000 ppm
	LD50	RAT		4300 mg/kg
67-64-1	Acetone			
	LC50	RAT	4HR	Not Available
	LD50	RAT		5800 mg/kg
78-93-3	Methyl Ethyl Ketone			
	LC50	RAT	4HR	Not Available
	LD50	RAT		2740 mg/kg

Continued on page 4

Section XII -- ECOLOGICAL INFORMATION

ECOTOXICOLOGAL INFORMATION

No data available

Section XIII -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulation regarding pollution.

Section XIV -- TRANSPORT INFORMATION

No data available

Section XV -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	0.7	
1330-20-7	Xylene	4	
78-93-3	Methyl Ethyl Ketone	20	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section XVI -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

There was a PDF conversion failure for -

Product Name: Bug & Tarminator
CAS Number:
Manufacturer: STONER INCORPORATED
SDS Date: 11/17/2016

To complete your binder, please link a different SDS for this product or print the SDS manually from

http://www.msdsonline.com/Legacy/Partners/Show-Document/Default.aspx?ShowId=70jPNosE03g%3d

and add to your binder. We are currently researching solutions to this issue. Thank you for your patience.

Safety Data Sheet
91154 Bug & Tarminator®

1. IDENTIFICATION

Stoner Incorporated
1070 Robert Fulton Hwy.
Quarryville, PA 17566
1-800-227-5538

Product Name:	Bug & Tarminator®
Product Code:	91154
Product Use:	Bug & Tar Remover
24-hour emergency phone:	1-800-424-9300 [CHEMTREC]

2. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Hazard Symbols

GHS Classification

Flammable Aerosol Category 1
Gases under pressure - Liquified Gas
Skin Sensitisation Category 1
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Carcinogenicity Category 2
Reproductive Toxicity Category 2
Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2
Hazardous to the aquatic environment - Acute Category 2

Signal Word

Danger

Hazard Statements

Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life..

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.

Response

IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Get medical advice/attention if you feel unwell.
Specific treatment (see … on this label).
If skin irritation occurs: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Wash contaminated clothing before reuse.

Storage

Store locked up.
Protect from sunlight. Store in a well-ventilated place.
Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS #	Percent
solvent naphtha (petroleum), heavy aliph.	64742-96-7	1-20
Distillates (petroleum), hydrotreated light	64742-47-8	1-20
Halogenated hydrocarbon	75-37-6	1-20
Petroleum hydrocarbon	1330-20-7	1-20
Glycol ether	112-34-5	1-20
Aliphatic hydrocarbon	142-82-5	1-20
Dimethyl carbinol	67-63-0	1-20
Citrus distillates	5989-27-5	1-20
Petroleum hydrocarbon	100-41-4	1-5

HMIS® III* HAZARDOUS WARNINGS:

Health:	Flammability:	Physical:	Personal Protective Equipment:
2*	4	1	See Section 8

* See www.paint.org/hmis or call the NPCA at 1 (202) 462-6272 for more information on this current rating system.

4. FIRST AID MEASURES

Eyes:	Immediately flush eyes gently with plenty of water for at least 15 minutes while holding eyelids apart. If symptoms persist or there is visual difficulty, seek medical attention.
Skin Contact:	In case of contact, immediately wash contaminated area with plenty of water for at least 15 minutes. Seek medical attention if symptoms persist. Wash clothing before reuse.
Ingestion:	If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Do not induce vomiting. Aspiration into the lungs can cause serious damage. Contact a physician, medical facility, or poison control center immediately. Have victim drink 8 to 10 ounces of water to dilute the material in the stomach.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention. Keep the victim warm and quiet.

NOTES TO PHYSICIAN:
Inhalation of high concentrations of the material, or one of it's components, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity when deciding whether to induce vomiting. Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used only in situations of emergency life support. This material (or a component) may cause acidosis. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin; lung (for example, asthma-like conditions); kidney; auditory system; arrhythmias (irregular heartbeats); liver; blood forming system; central nervous system;

5. FIRE FIGHTING MEASURES

Fire and/or Explosion Hazards:	This product contains a component(s) that is considered a flammable liquid, which has vapors that are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, or other flames and ignition sources at locations distant from the material's handling point. This product contains a component(s) that is considered an extremely flammable gas(es), which has vapors that are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, or other flames and ignition sources at locations distant from the material's handling point.Containers may rupture or explode under fire conditions. "Empty" containers retain product residue and can be dangerous.
Fire Fighting Instructions:	Use CO2, foam or dry chemical. Fire fighters should wear normal protective equipment and positive-pressure self-contained breathing apparatus. Water is generally not effective and may spread fire; however, water spray may be used from a safe distance to cool closed containers and protect surrounding area.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
Wear appropriate personal protective equipment (PPE). Stop or reduce discharge if it can be done safely. Avoid run-off into storm sewers and ditches which may lead to natural waterways. Clean up with absorbent material. Place absorbent materials into container and close it tightly. Dispose of container properly. Remove all sources of ignition. Ventilate contaminated area. If runoff occurs, notify authorities as required. Wear appropriate clothing.

7. HANDLING AND STORAGE

Handling: Do not use near ignition sources. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin. Use with adequate ventilation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. May cause frostbite. If ventilation is not sufficient, wear proper respiratory equipment. Avoid prolonged or repeated contact with skin. Avoid prolonged or repeated breathing of vapor. This material can be harmful or irritating. Do not use near ignition sources. Do not store containers in excessive heat or direct sunlight. Protect container against physical damage.

Storage: Store in a cool, dry, well ventilated area away from all sources of ignition. Keep away from heat, sparks and flame. Do not store at temperatures above 120 degrees F. Empty container may contain residues which are hazardous.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Ventilation should be adequate to prevent exposures above the limits indicated below in this section of the MSDS (from known, suspected or apparent adverse effects). Local exhaust should be used in areas where exposure limits may be exceeded.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid or airborne material. Do not wear contact lenses. Have an eye wash station available.

Skin Protection: The use of chemically resistant gloves is recommended if there is any possibility of prolonged or repeated liquid contact with skin.

Respiratory Protection: If respiratory irritation develops below the recommended exposure limits, use an NIOSH approved nuisance dust/mist/organic vapor respirator. A supplied air respirator should be used if ventilation is not sufficient to maintain exposure limits. Use NIOSH approved respirator where there is likelihood of inhalation of the product mist, spray or aerosol.

COMPONENT	CAS #	ACGIH TLV	OSHA PEL	OTHER
solvent naphtha (petroleum), heavy aliph.	64742-96-7	Not established	Not established	Not established
Distillates (petroleum), hydrotreated light	64742-47-8	Not established	Not established	Not established
Halogenated hydrocarbon	75-37-6	Not established	Not established	1000ppm TWA (Mfr.)
Petroleum hydrocarbon	1330-20-7	Not established	Not established	Not established
Glycol ether	112-34-5	20ppm	50ppm	35ppm TWA (Mfg. recommend)
Aliphatic hydrocarbon	142-82-5	400 ppm	400 ppm	Not established
Dimethyl carbinol	67-63-0	200 ppm	Not established	200 ppm 8 hr TWA
Citrus distillates	5989-27-5	Not established	Not established	FDA-GRAS
Petroleum hydrocarbon	100-41-4	100ppm TWA	100ppm TWA	100ppm 10 hr-TWA (NIOSH)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Aerosol can	Lower Flammability Limit (%):	Not applicable
Appearance:	Clear Colorless	Upper Flammability Limit (%):	Not applicable
Odor:	Petroleum solvent	Vapor Pressure (PSIG @ 70°F):	63.00
Odor Threshold:	Mild	Vapor Density [air = 1]:	3.53
pH:	Not applicable	Relative Density (H2O=1):	0.91
Melting/Freezing Point (°F):	No data available	Solubility in Water:	Not determined
Boiling Point (°F):	No data available	Partial Coefficient: n-octanol/water:	No data available
Flash Point (°F PMCC):	Not applicable	Autoignition Temperature (°F):	449
Evaporation Rate:	0.5-2 (n-Butyl acetate = 1)	Decomposition Temperature (°F):	No data available
Flammability (solid, gas):	No data available	Viscosity, dynamic (cSt):	No data available
Percent VOCs (%):	40 - 60		

10. STABILITY AND REACTION

Chemical Stability: Stable.

Conditions to Avoid: Ignition sources such as open flames, sparks, static discharges or glowing metal surfaces. Avoid contact with: Strong oxidizing agents. Chlorine. Hypochlorites. Alkali. Alkaline earth metals. Powdered metals. Strong alkalies. Acetaldehyde. Acids. Ethylene oxide. Isocyanates.

Decomposition Products: Burning can produce the following combustion products: Carbon dioxide and carbon monoxide. Aldehydes. Various hydrocarbons. This material can be decomposed by extremely high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and carbonyl fluoride.

11. TOXICOLOGICAL INFORMATION

Inhalation Toxicity: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Reproductive & Developmental Toxicity: No data available.

Ingredient	CAS #	Toxicological Data
Halogenated hydrocarbon	75-37-6	ORAL ALD Rat > 1500 mg/kg 4HR ALC Rat 383000 ppm
Petroleum hydrocarbon	1330-20-7	Dermal LD50 Rabbit > 2000 mg/kg Oral LD50 Rat = 5000 mg/kg
Glycol ether	112-34-5	Dermal LD50 Rabbit = 2700 mg/kg Oral LD50 Rat = 6560 mg/kg Inhalation LC50 (1h) Guinea pig > 633 ppm
Aliphatic hydrocarbon	142-82-5	Dermal LD50 Rat > 2000 mg/kg Oral LD50 Rat 5000 mg/kg Inhalation LC50 (4h) Rat = 74 mg/L
Dimethyl carbinol	67-63-0	Dermal LD50 Rabbit = 12870 mg/kg Oral LD50 Rabbit = 5030 mg/kg Inhalation LC50 (8h) Rat = 51 mg/L
Citrus distillates	5989-27-5	Dermal LD50 Rabbit = 5 g/kg Oral LD50 Rat > 5 g/kg
Petroleum hydrocarbon	100-41-4	Dermal LD50 Rabbit = 15433 mg/kg No data available Inhalation LC50 Mouse = 6 mg/L

12. ECOLOGICAL INFORMATION

Ecological Toxicity: Severe ecological hazard. This product may be toxic to plants and/or wildlife.

Mobility: No data available This material (or one of its components), dissolves in water. If it enters the soil, it will be highly mobile and may contaminate ground water.

Ingredient	CAS #	Toxicological Data
Petroleum hydrocarbon	1330-20-7	Aquatic LC50 (96h) MINNOW 24 - 30 mg/L Aquatic LC50 (24h) Daphnia 100 - 1000 mg/L
Glycol ether	112-34-5	Aquatic LC50 (96h) Bl gill = 1300 mg/L Aquatic LC50 (24h) Daphnia = 2850 mg/L
Aliphatic hydrocarbon	142-82-5	Aquatic LC50 (24h) MINNOW 4 mg/L 48HR EC50 Daphnia 1.5 mg/L
Citrus distillates	5989-27-5	Aquatic LC50 (96h) MINNOW 1 - 1 mg/L 48HR EC50 Daphnia = 70 mg/L
Petroleum hydrocarbon	100-41-4	Aquatic LC50 (96h) Rainbow Trout = 8.4 mg/L 48HR EC50 Daphnia = 9.55 mg/L 72HR EC50 Algae 4.9 mg/L

13. DISPOSAL CONSIDERATIONS

Disposal : Dispose according to Federal, State and local regulations.

14. TRANSPORTATION INFORMATION

Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
DOT	UN1950	Aerosols, Flammable†	2.1	Not applicable
IATA	ID8000	Consumer Commodity†	9	Not applicable
IMDG	UN1950	Aerosols, Flammable†	2.1	Not applicable

† "Limited Quantities" may be applicable for this transportation mode.

15. REGULATORY INFORMATION

Warning: This product contains the following chemicals that are subject to reporting requirements for the following regulatory bodies listed below:

COMPONENT	CAS #	% BY WEIGHT	Regulatory Body
Xylene	1330-20-7	1-20	SARA Section 313
Ethyl benzene	100-41-4	1-5	SARA Section 313

Warning: This product may contain chemicals known to the State of California to cause cancer. See list below.

Ethyl benzene	100-41-4	1-5	Prop65 Cancer

Warning: This product may contain chemicals known to the State of California to cause birth defects. See list below.

Benzene	71-43-2	0.01 - 0.1	Prop65 Birth Defects

All components of this product are listed on the TSCA inventory.

16. OTHER INFORMATION

Other Information : MSDS Prepared by L. Dean Swartz, MSDS Coordinator

Version Date: 06/01/15

This information contained in this MSDS is believed to be accurate as of the version date, but is not warranted to be. Since the use of this information and the conditions of use of this product are not within the control of Stoner Inc, it is the user's obligation to determine the conditions of safe use.

NALCO DIVERSIFIED TECHNOLOGIES, INC.
P.O. Box 200
Chagrin Falls, OH 44022
(440) 247-5000
For sales office or product literature call (800) 669-0053

IN THE EVENT OF A CHEMICAL SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC AT 1-800-424-9300.

MATERIAL SAFETY DATA SHEET

 Rev.# 1

SECTION I: PRODUCT IDENTIFICATION 124

TRADE NAME: BW-820
CHEMICAL NAME: Diethylaminoethanol
CHEMICAL FAMILY: BOILER CONDENSATE AMINE

SECTION II: HAZARDOUS INGREDIENTS

	CAS #	%	TLV/PEL
diethylaminoethanol	100-37-8	8-12	50mg/m3(skin)

SECTION III: PHYSICAL DATA

Boiling point (F): unknown
Specific Gravity: 0.99
Vapor Pressure (mm Hg): like water
Percent Volatile by volume: approx.100
Vapor Density (air=1): 3
Evap. Rate (water=1): 1
Solubility in Water: complete
pH: 10.5 - 12.5
Density: 8.3 lbs/gal
pH (1% soln.): 9.9
Appearance and Odor: Clear liquid, amine odor.

SECTION IV: FIRE PROTECTION INFORMATION

Flash Point: >150°F (PMCC)
Flammable Limits: unknown
Extinguishing Media: Water, carbon dioxide, dry chemical or foam.

Special Fire Fighting Procedures: Keep drums that are exposed to fire cool with water. Wear protective clothing and SCBA.

Unusual Fire and Explosion Hazards: Toxic fumes may be generated. May flash if water is driven off. DEAE flashes at 120 F.

National Fire Protection Association (NFPA) Rating (in fire conditions):
Toxicity: 2 Fire: 1 Reactivity: 0 Special: -
Hazard Rating: 4=extreme 3=high 2=moderate 1=slight 0=insignificant

Date: 1/12/00

SECTION V: HEALTH HAZARD INFORMATION

PRIMARY ROUTE(S) OF ENTRY:

Skin:	X	Eye:	X	Inhalation:	X	Ingestion:	X

Acute Effects of Exposure:
May irritate or damage skin, eyes, and mucous membranes of the respiratory and digestive tracts. Inhalation of concentrated mists may cause pneumonia. Inhalation or absorption through skin may cause lung damage. Ingestion may cause nausea, vomiting, dizziness, drowsiness, collapse and coma.

Chronic Effects of Exposure:
Repeated exposure to skin may cause chronic dermatitis. Inhalation may cause lung damage. Animal chronic feeding studies have led to testicular and thyroid atrophy. Not a suspected or confirmed carcinogen.
(Reference to OSHA, NTP, IARC)

Medical Conditions Which May Be Aggravated By Handling This Product:
Persons with impaired breathing may be at increased risk if concentrated mists are inhaled. Open wounds, rashes or sores may be irritated.

Emergency and First Aid Procedures:

Skin: Flush with water, then wash thoroughly with soap and water.

Eyes: Flush with water for 15 minutes and seek medical attention.

Ingestion: Drink plenty of water and consult physician immediately. Avoid alcoholic beverages. Do not give anything by mouth to an unconscious person.

Inhalation: Move victim to fresh air. Seek medical attention if breathing difficulty persists. Apply artificial respiration if necessary.

IN THE EVENT OF A CHEMICAL SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL CHEMTREC AT 1-800-424-9300.

For additional non-emergency information call: Safety and Regulatory Dept.
P.O. Box 200
Chagrin Falls, OH 44022
(440) 247-5000

Date: 1/12/00

= SECTION VI: REACTIVITY DATA

Stable: Yes: X No: Hazardous Polymerization: Yes: No: X

Conditions to Avoid:
Extreme temperatures.

Materials to Avoid:
Strong acids, oxidizing agents. May react with nitrites and other nitrosating agents to form carcinogenic nitrosamines.

Hazardous Decomposition Products:
Thermal decomposition may produce carbon monoxide, carbon dioxide, and/or nitrogen oxides.

= SECTION VII: SPILL OR LEAK PROCEDURES/WASTE DISPOSAL

Spill or Leak Procedures:
Contain spill if without risk. Remove sources of ignition. Absorb on inert material such as sand or clay and place in drums for proper disposal.

Waste Disposal:
Not a RCRA hazardous waste if the PH is <12.4 at time of disposal.
Incinerate or dispose of in accordance with local, state and federal requirements.

Additional Regulatory Information:

CERCLA:

SARA Title III:
Sec. 313 Toxic Chemical Release - This product does not contain any ingredients (at 1% or greater) which are on the List of Toxic Chemicals.
Sec. 302-304 Extremely Hazardous Substances - This product does not contain any ingredients which are on the Extremely Hazardous Substance List.
Sec. 311-312 Inventory Reporting, Hazard Category - Immediate (acute), and delayed (chronic).

California Proposition 65: This product does not contain ingredients known to the state of California to cause cancer or reproductive toxicity.

= Date: 1/12/00

= SECTION VIII: OCCUPATIONAL PROTECTIVE EQUIPMENT

Eye: Chemical safety glasses or face shield.

Respiratory: Not required under normal conditions of use.

Skin: Rubber or impervious gloves.

Local Exhaust: Recommended in confined spaces. Mechanical exhaust ventilation sufficient to remove air contaminants from operator's area.

Other: Rubber apron if splashing likely, eye wash and emergency shower equipment.

= SECTION IX: PRECAUTIONARY MEASURES

Avoid skin and eye contact. Do not take internally. Keep container closed when not in use. Avoid breathing vapors or mists. Wash thoroughly after handling and before eating, drinking, or smoking.

Refer to the Material Safety Data Sheet Glossary of Terms for additional information.

= SECTION X: TRANSPORTATION INFORMATION

DOT Label:	N/A
DOT Proper Shipping Name:	COMBUSTIBLE LIQUID, N.O.S. (Contain diethylaminoethanol)
DOT Hazard Class/I.D. #:	COMBUSTIBLE LIQUID, NA 1993, PG III
U.S. Surface Freight Classification:	Compounds, Boiler Preserving, Liquid

= SECTION XI: ADDITIONAL INFORMATION

FDA: Conforms with 21CFR173.310 for use in boilers producing steam that may contact food, excluding milk, providing the DEAE level does not exceed 15ppm.

USDA: None

EPA: All ingredients reported on TSCA Inventory.

Aquatic Toxicity: Not tested

= Date: 1/12/00

NOTICE: Seller warrants that this product complies with the specifications expressed in this label. Seller hereby disclaims all other warranties, expressed or impleid, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Seller's total liability to purchaser for the breach of any warranty shall be limited to the amount of the purchase price of this product. In no event shall seller have any liability to purchaser for special, incidental or consequential damages.

CEMENT & CONCRETE PRODUCTS™

C1: Portland Cement Based Concrete Products

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS C1
Revision: Mar-16

QUIKRETE® Product Name	Item #(s)
Fence Post Mix	1005
Fiber-Reinforced Concrete Mix	1006
Crack Resistant Concrete Mix	1006-80
Pro-Finish Crack Resistant Concrete Mix	1006-68
QUIKRETE 5000 Concrete Mix	1007
QUIKRETE 6000 Concrete Mix	1007
Pro-Finish QUIKRETE 5000	1007-85
Lightweight Concrete Mix	1008
Basic Concrete Mix	1015
Maximum Yield Concrete Mix	1100-80
Concrete Mix	1101-10, -20, -40, -60, -80, -90
Green Concrete Mix	1101-63, -73
B-Crete	1101-81
Red-E-Crete Concrete mix	1101-91, -87; 1141-62, -63, -92, -93
Countertop Mix	1106-80
All-Star Concrete Mix	1121
Rip Rap	1129
Rip Rap Scrim	1134-80
Handicrete Concrete Mix	1141-59, -60, -80
RiteMix Concrete	1171-60
Fiber Reinforced Deck Mix	1251-80, -81
All-Star Crack Resistant Concrete Mix	1470-03
All-Star 5000 Concrete Mix	1470-01
Form & Pour Mortar	808100-65
FlowCrete 5000 (Mix 801)	8080026/NR80026

Product Use: Portland cement-based, aggregated products for general construction

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A
Skin Corrosion – Category 1B
Skin Sensitization – Category 1B
Specific Target Organ Toxicity Repeat Exposure – Category 1
Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation
Causes severe skin burns and serious eye damage
May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation
May cause respiratory irritation

2.2c Pictograms

2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection, and protective clothing.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area.
Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical advice or attention.

Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information
The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

2.3C WHMIS Classification

Class D2B – Skin/Eye Irritant
Class D2A – Chronic Toxic Effects – Carcinogen
Class E – Corrosive Material

2.3d Label Elements According To WHMIS

Hazard Symbols

Signal Word

DANGER!

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	60-100*
Portland Cement	65997 15 1	10-30*
Fly Ash	68131-74-8	5-10*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures

General information:

After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement.

Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible
5.2 Suitable extinguishing agents: Treat for surrounding material
5.3 Special hazards arising from the substance or mixture: None
5.3a Products of Combustion: None
5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:
Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8).Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Fly Ash	68131-74-8	N/A	N/A

8.2 Exposure Controls
Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures
Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:
Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization.

Eye protection:
Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:
A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Gray to gray-brown colored Odor: None
pH-value at 20°C (68 °F):	13 (10%)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not available
Density at 25°C (77 °F):	2.6 to 3.15
Solubility in / Miscibility with Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
Stable under normal storage conditions. Keep in dry storage.
10.3 Possibility of hazardous reaction
No dangerous reaction known under conditions of normal use.
10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure

Short Term

Skin Corrosion/Irritation: Causes severe skin burns.
Serious Eye Damage/Irritation: Causes severe eye damage.
Respiratory Sensitization: Not available
Skin Sensitization: May cause an allergic skin reaction.
Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.
Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.
Germ Cell Mutagenicity: Not available
Reproductive Toxicity: Not available
Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure
Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity
May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential:
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Other Adverse Effects
No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method
The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations
Uncleaned packaging
Recommendation: Disposal must be made in accordance with local, state and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:
Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code
Not available

14.3 Special precautions for user
Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.
RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.
CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.
Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.
FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).
NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.
OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

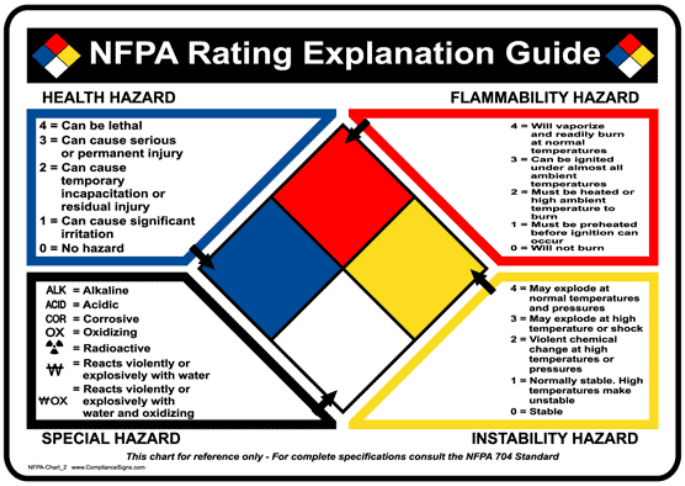
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

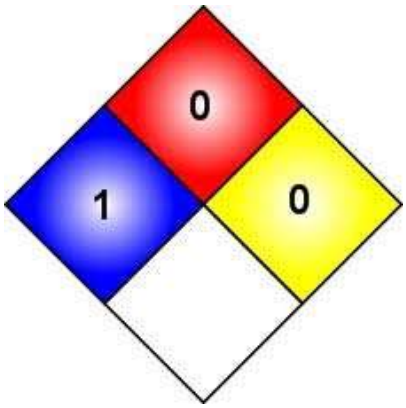
15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

15.5 NFPA Ratings





SECTION XVI – OTHER INFORMATION

Last Updated: March 31, 2016

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE® Companies
Phone (800) 282-5828
www.QUIKRETE.com

End of SDS

CEMENT & CONCRETE PRODUCTS™

C1: Portland Cement Based Concrete Products

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS C1
Revision: Jan-16

QUIKRETE® Product Name	Item #(s)
Fence Post Mix	1005
Fiber-Reinforced Concrete Mix	1006
Crack Resistant Concrete Mix	1006-80
Pro-Finish Crack Resistant Concrete Mix	1006-68
QUIKRETE 5000 Concrete Mix	1007
QUIKRETE 6000 Concrete Mix	1007
Pro-Finish QUIKRETE 5000	1007-85
Lightweight Concrete Mix	1008
Basic Concrete Mix	1015
Maximum Yield Concrete Mix	1100-80
Concrete Mix	1101-10, -20, -40, -60, -80, -90
Green Concrete Mix	1101-63, -73
B-Crete	1101-81
Red-E-Crete Concrete mix	1101-91, -87; 1141-62, -63, -92, -93
Countertop Mix	1106-80
All-Star Concrete Mix	1121
Rip Rap	1129
Rip Rap Scrim	1134-80
Handicrete Concrete Mix	1141-59, -60, -80
RiteMix Concrete	1171-60
Fiber Reinforced Deck Mix	1251-80, -81
All-Star Crack Resistant Concrete Mix	1470-03
All-Star 5000 Concrete Mix	1470-01
Form & Pour Mortar	808100-65
FlowCrete 5000 (Mix 801)	8080026/NR80026

Product Use: Portland cement-based, aggregated products for general construction

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A
Skin Corrosion – Category 1B
Skin Sensitization – Category 1B
Specific Target Organ Toxicity Repeat Exposure – Category 1
Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation
Causes severe skin burns and serious eye damage
May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation
May cause respiratory irritation

2.2c Pictograms

2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection, and protective clothing.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area.
Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical advice or attention.

Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information
The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

2.3C WHMIS Classification

Class D2B – Skin/Eye Irritant
Class D2A – Chronic Toxic Effects – Carcinogen
Class E – Corrosive Material

2.3d Label Elements According To WHMIS

Hazard Symbols

Signal Word

DANGER!

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	60-100*
Portland Cement	65997 15 1	10-30*
Fly Ash	68131-74-8	5-10*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures

General information:

After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If

there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible
5.2 Suitable extinguishing agents: Treat for surrounding material
5.3 Special hazards arising from the substance or mixture: None
5.3a Products of Combustion: None
5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:
Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8).Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Fly Ash	68131-74-8	N/A	N/A

8.2 Exposure Controls
Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures
Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:
Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Precautions must be observed because burns occur with little warning -- little heat is sensed.

Eye protection:
Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:
A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Gray to gray-brown colored Odor: None
pH-value at 20°C (68 °F):	13 (10%)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not available
Density at 25°C (77 °F):	2.6 to 3.15
Solubility in / Miscibility with Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
Stable under normal storage conditions. Keep in dry storage.
10.3 Possibility of hazardous reaction
No dangerous reaction known under conditions of normal use.
10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure

Short Term

Skin Corrosion/Irritation: Causes severe skin burns.
Serious Eye Damage/Irritation: Causes severe eye damage.
Respiratory Sensitization: Not available
Skin Sensitization: May cause an allergic skin reaction.
Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.
Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.
Germ Cell Mutagenicity: Not available
Reproductive Toxicity: Not available
Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure
Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity
May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential:
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Other Adverse Effects
No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method
The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations
Uncleaned packaging
Recommendation: Disposal must be made in accordance with local, state and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:
Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code
Not available

14.3 Special precautions for user
Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.
RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.
CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.
Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.
FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).
NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.
OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

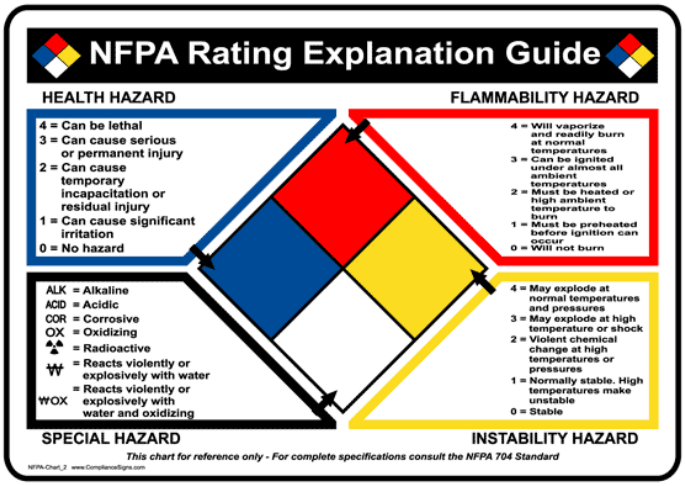
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

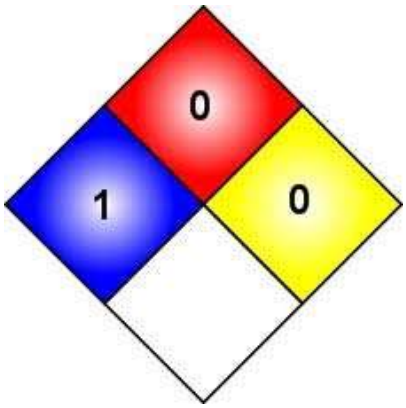
15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

15.5 NFPA Ratings





SECTION XVI – OTHER INFORMATION

Last Updated: January 4, 2016

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE® Companies
Phone (800) 282-5828
www.QUIKRETE.com

End of SDS

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: Concrete Bonding Additive
Product UPC Number: 070798021310, 070798021327
Product Use/Class: Concrete Adhesive
Manufacturer: **DAP Products Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 12/05/2013
Supersedes: 12/29/2011
MSDS Number: 00040005001

Section 2 - Hazards Identification

Emergency Overview: A(n) opaque liquid product with a slight odor. WARNING! May cause eye, skin, nose, throat and respiratory tract irritation.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation. Signs and symptoms may include: pain, tears, swelling, redness and blurred vision.

Effects Of Overexposure - Skin Contact: May cause skin irritation.

Effects Of Overexposure - Inhalation: Vapors may be irritating to eyes, nose, throat, and lungs.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause irritation of eyes and skin.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Carcinogenicity:

None

Section 3 - Composition / Information On Ingredients

Does not contain hazardous ingredients per OSHA's Hazard Communication Standard.

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: Wash off with soap and water.

First Aid - Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: None.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: None known.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Dike to prevent entering any sewer or waterway.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! Use in well ventilated area. Provide fresh air such that chemical odors cannot be detected during use and while drying. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Construction and repair activities can adversely affect indoor air quality. Consult with occupants or a representative (i.e. maintenance, building manager, industrial hygienist, or safety officer) to determine ways to minimize impact.

Storage: Avoid excessive heat and freezing. Keep containers closed when not in use. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Does not contain hazardous ingredients per OSHA's Hazard Communication Standard.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work

practices.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: While mixing, provide sufficient mechanical ventilation (local or general exhaust) to maintain exposure below PEL and TLV. If dry-sanding, provide sufficient mechanical ventilation to maintain exposure below PEL and TLV.

Respiratory Protection: If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. No personal respiratory protective equipment normally required.

Skin Protection: Wear gloves with repeated or prolonged use.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash contaminated clothing before re-use.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Slight	**Odor Threshold:**	Not Established
Color:	Opaque	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.05 - 1.05
Freeze Point:	Not Established	**pH:**	Between 7.0 and 12.0
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Liquid	**Flammability:**	Non-Flammable
Flash Point, F:	Greater than 200	**Method:**	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Determined	**Upper Explosive Limit, %:**	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under normal conditions.

Section 11 - Toxicological Information

Product LD50: Not Established

Product LC50: Not Established

No toxicological information is available.

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste. Liquids cannot be disposed of in a landfill. Do not re-use empty containers.

EPA Waste Code if Discarded (40 CFR Section 261): None.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated.	**Packing Group:**	N.A.
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	N.A.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Vinyl acetate	108-05-4

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 14 lb/gal: 0.1 wt:wt%: 0.4

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 0.4

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable
N.E. – Not Established
N.D. – Not Determined
VOC – Volatile Organic Compound
PEL – Permissible Exposure Limit
TLV – Threshold Limit Value
CEIL – Ceiling Exposure Limit
LD50 – Lethal Dose 50
F – Degree Fahrenheit
C – Degree Celsius
ACGIH – American Conference of Governmental Industrial Hygienists
SARA – Superfund Amendments and Reauthorization Act of 1986
NJRTK – New Jersey Right-to-Know Law
OSHA – Occupational Safety and Health Administration
HMIS – Hazardous Materials Identification System
NTP – National Toxicology Program
STEL – Short Term Exposure Limit
LC50 – Lethal Concentration 50
MSDS – Material Safety Data Sheet
CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

GMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
MILWAUKEE, WISCONSIN 53201, USA

ATTN: SAFETY DIRECTOR
DEANA CRUMBLING
PHILADELPHIA COLL OF TEXTILES & SCI
BUSINESS OFFICE
SCHOOL HOUSE LANE & HENRY AVE
PHILADELPHIA PA 19144

EMERGENCY PHONE 1-414-273-3850

DATE 09/11/96
CUST#: 381616
PO#: 136137

M A T E R I A L S A F E T Y D A T A S H E E T

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

CATALOG #: 21138-9
NAME: CALCIUM HYPOCHLORITE, TECH

SECTION 2. - - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 7778-54-3
MF: CACL2O2
EC NO: 231-908-7

SYNONYMS
B-K POWDER * BLEACHING POWDER * CALCIUM CHLOROHYDROCHLORITE * CALCIUM HYPOCHLORITE * CALCIUM HYPOCHLORITE, DRY (DOT) * CALCIUM HYPOCHLORITE MIXTURES DRY WITH >39% AVAILABLE CHLORINE (DOT) * CALCIUM OXYCHLORIDE * CAPORIT * CHEMICHLOR G * CHLORIDE OF LIME * CHLORINATED LIME * CHLOROLIME CHEMICAL * HTH * HTH (BLEACHING AGENT) * HY-CHLOR * LIME CHLORIDE * LO-BAX * LOSANTIN * PERCHLORON * PITTCHLOR * PITTCIDE * PITTCLOR * SENTRY * SOLVOX KS * T-EUSOL * UN1748 (DOT) *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
OXIDIZING
HARMFUL
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
CAUSES SEVERE IRRITATION.
AVOID CONTACT WITH ACID.
KEEP AWAY FROM COMBUSTIBLE MATERIAL.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.

CONTINUED ON NEXT PAGE

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CATALOG #: 21138-9
NAME: CALCIUM HYPOCHLORITE, TECH

WASH CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD CONTAMINATED SHOES.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
STRONG OXIDIZER.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

EVACUATE AREA.
SHUT OFF ALL SOURCES OF IGNITION.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
COVER WITH DRY-LIME, SAND, OR SODA ASH. PLACE IN COVERED CONTAINERS USING NON-SPARKING TOOLS AND TRANSPORT OUTDOORS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

ADDITIONAL INFORMATION
THERMAL DECOMPOSITION OF CALCIUM HYPOCHLORITE OCCURS AT APPROXIMATELY 175'C WITH THE EVOLUTION OF OXYGEN AND CHLORINE, PROPAGATING RAPIDLY THROUGH THE WHOLE BULK. WHEN A CARBON TETRACHLORIDE EXTINGUISHER WAS USED ON A FIRE IN AN OPEN CONTAINER OF THE HYPOCHLORITE AN EXPLOSION OCCURRED. AMMONIA, PRIMARY ALIPHATIC OR AROMATIC AMINES REACT WITH THE HYPOCHLORITE TO PRODUCE EXPLOSIVELY UNSTABLE COMPOUNDS. CALCIUM HYPOCHLORITE CONTAINING OVER 60% ACTIVE CHLORINE IGNITES ON CONTACT WITH LUBRICATING OILS, DAMP SULFUR, ORGANIC THIOLS OR SULFIDES. METAL OXIDES CATALIZE THE OXYGEN-EVOLVING DECOMPOSITION OF THE HYPOCHLORITE. CONTACT OF THE SOLID HYPOCHLORITE WITH NITROMETHANE, ALCOHOLS, GLYCEROL, PHENOL OR DIETHYLENE GLYCOL MONOMETHYL ETHER RESULTS IN IGNITION. HEATING A CONFINED MIXTURE OF THE HYPOCHLORITE AND CARBON RESULTED IN AN EXPLOSION.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

CONTINUED ON NEXT PAGE

CATALOG #: 21138-9
NAME: CALCIUM HYPOCHLORITE, TECH

SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
AVOID BREATHING DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
SEVERE IRRITANT.
HARMFUL SOLID.
AVOID CONTACT WITH ACID.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
OFF-WHITE GRANULAR POWDER

PHYSICAL PROPERTIES
MELTING POINT: 100 C
SPECIFIC GRAVITY: 2.350

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES
STRONG REDUCING AGENTS
STRONG ACIDS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
HYDROGEN CHLORIDE GAS

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
CAUSES SEVERE IRRITATION.
HIGH CONCENTRATIONS ARE EXTREMELY DESTRUCTIVE TO TISSUES OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION
IF SWALLOWED CALCIUM HYPOCHLORITE CAN PRODUCE NAUSEA, VOMITING, DELIRIUM, COMA, RESPIRATORY COLLAPSE, HOLES IN THE ESOPHOGUS AND STOMACH.

RTECS #: NH3485000

CONTINUED ON NEXT PAGE

ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
MILWAUKEE, WISCONSIN 53201, USA

CUST#: 381616
PO#: 136137

CATALOG #: 21138-9
NAME: CALCIUM HYPOCHLORITE, TECH

HYPOCHLOROUS ACID, CALCIUM SALT

TOXICITY DATA
ORL-RAT LD50:850 MG/KG PESTC* 9,21,80
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

CAUTIOUSLY ACIDIFY A 3% SOLUTION OR A SUSPENSION OF THE MATERIAL TO PH 2 WITH SULFURIC ACID. GRADUALLY ADD A 50% EXCESS OF AQUEOUS SODIUM BISULFITE WITH STIRRING AT ROOM TEMPERATURE. AN INCREASE IN TEMPERATURE INDICATES THAT A REACTION IS TAKING PLACE. IF NO REACTION IS OBSERVED ON THE ADDITION OF ABOUT 10% OF THE SODIUM BISULFITE SOLUTION INITIATE IT BY CAUTIOUSLY ADDING MORE ACID. IF MANGANESE, CHROMIUM, OR MOLYBDENUM ARE PRESENT ADJUST THE PH OF THE SOLUTION TO 7 AND TREAT WITH SULFIDE TO PRECIPITATE FOR BURIAL AS HAZARDOUS WASTE. DESTROY EXCESS SULFIDE, NEUTRALIZE AND FLUSH THE SOLUTION DOWN THE DRAIN. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION
EC INDEX NO: 017-012-00-7
OXIDIZING
HARMFUL
R 8
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
R 31
CONTACT WITH ACIDS LIBERATES TOXIC GAS.
R 34
CAUSES BURNS.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
S 43
IN CASE OF FIRE, USE DRY POWDER. NEVER USE WATER.
S 45

CONTINUED ON NEXT PAGE

CATALOG #: 21138-9
NAME: CALCIUM HYPOCHLORITE, TECH

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
IARC CANCER REVIEW:ANIMAL INADEQUATE EVIDENCE IMEMDT 52,159,91
IARC CANCER REVIEW:HUMAN NO AVAILABLE DATA IMEMDT 52,159,91
IARC CANCER REVIEW:GROUP 3 IMEMDT 52,159,91
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION FEREAC 54,7740,89
NOHS 1974: HZD 15746; NIS 30; TNF 3262; NOS 37; TNE 39878
NOES 1983: HZD 15746; NIS 48; TNF 3884; NOS 57; TNE 82721; TFE 23486
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1996

SECTION 16. - - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ALDRICH SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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MATERIAL SAFETY DATA SHEET

MATERIAL IDENTIFICATION AND USE		SUPPLIER: RUSSEL METALS INC.
MATERIAL NAME: **STEEL**	Russel Metals	ADDRESS: 6600 FINANCIAL DRIVE, MISSISSAUGA, ONTARIO. CANADA. L5N 7J6.
SYNONYMS: Includes all Sheet products, Plate, Strip, Bar, Slab, Ingot, Structural shapes and Tubular Products.		TEL: 905-819-7295 FAX: 905-819-7262
		FORM #: MSDS-01-2014 DATE: AUGUST 2014

1. PRODUCT INFORMATION

GHS PRODUCT IDENTIFIER: **STEEL**

OTHER MEANS OF IDENTIFICATION: Includes all Sheet products, Plate, Strip, Bar, Slab, Ingot, Structural shapes and Tubular Products

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:
Solid steel products, various forms and uses. Manufacture of articles.

SUPPLIER'S DETAILS: RUSSEL METALS INC., 6600 FINANCIAL DRIVE, MISSISSAUGA, ONTARIO. CANADA. L5N 7J6

EMERGENCY PHONE NUMBER: 905-819-7295

2. HAZARDS IDENTIFICATION

CLASSIFICATION: Steel is considered an "article" and not hazardous in its solid form. However, certain process such as cutting, milling, grinding, melting and welding could result in some hazardous materials being emitted. The GHS Classification below pertains to these emitted products during these processes.

SIGNAL WORD, HAZARD STATEMENTS & SYMBOLS: DANGER

SYMBOLS	HAZARD	GHS CLASSIFICATION	HAZARD STATEMENTS
	Carcinogenicity Respiratory Sensitizer STOT (repeated exposure)	Category – 1B Category – 1 Category – 1	May cause cancer May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs through prolonged or repeated exposure.
	Acute Oral Toxicity Skin Sensitizer STOT (single exposure)	Category – 4 Category – 1 Category – 3	Harmful if swallowed. May cause allergic skin reaction. May cause respiratory irritation.
N/A	Eye Irritation	Category – 2B	Causes eye irritations.

PRECAUTIONARY STATEMENTS:

PREVENTION	FIRST AID RESPONSE
Do not breathe dust/fume/gas/vapour/spray. Use in a well- ventilated area. Use personal protective equipment as required. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read & understood. Contaminated work clothing should not be allowed out of the workplace.	**EYES:** Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if eye irritation persists. **SKIN:** Wash affected area with mild soap and water. Seek medical attention if skin irritation persists. **INHALATION:** Remove to fresh air. Check for clear airway, breathing and presence of pulse. If necessary administer CPR. Consult a physician immediately. **INGESTION:** Dust may irritate mouth and gastrointestinal tract. If ingested, seek medical attention promptly.
STORAGE	**DISPOSAL**
Store away from acids and incompatible materials. Store in accordance with federal/ provincial/state or local regulations.	Steel scrap should be recycled whenever possible. Otherwise, dispose of in accordance with applicable federal/ provincial/state or local regulations.

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): Not applicable.

NOTES:
- STOT – Specific Target Organ Toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

BASE METAL (ALL VALUES ARE EXPRESSED AS WEIGHT PERCENT AND ARE APPROXIMATES)

CHEMICAL NAME	CAS NUMBER	CARBON & H.S.L.A. STEELS	ELECTRICAL STEELS	LEADED & LOW ALLOY STEELS	RAILS & TIE PLATES	TUBULAR PROD.
IRON	**7439-89-6**	**91-99**	**91-99**	**92-96**	**94-96**	**94-96**
Manganese	7439-96-5	<2.0	<2.2	<2.2	<1.7	<1.7
Chromium	7440-47-3	<0.1	<1.7	<1.7	<1.6	<0.7
Nickel	7440-02-0	<1.0	<2.1	<2.1	<0.15	<0.5
Copper	7440-50-8	<1.0	--	--	<0.1	<0.5
Phosphorous	7723-14-0	<0.25	--	--	--	<0.1
Molybdenum	7439-98-7	--	--	--	<0.12	<1.0
Lead	7439-92-1	--	--	<0.35	--	--

NOTES:
- For exact composition, refer to analysis or specifications.

METALLIC AND NON-METALLIC COATINGS

GALVANIZE GALVANNEAL	- Hot dipped Zinc (CAS 7440-66-6) coating. Coating weights range from 15-400 g/m□ per side. May be chemically passivated with a Chromium compound which leaves a residual Cr level of 11-40 mg/m□ per side. Petroleum based rust preventative oils are applied to oiled product. Typical oil coating weights range from 1.1-5.4 g/m□ per side.		C2 COATING ELECTRICAL C3 COATING ELECTRICAL C5M COATING ELECTRICAL	- Glass film composed of Magnesium ortho-silicate formed during high temperature anneal - Oil modified polyester resin varnish film - An inorganic iron-silicate complex that is heat and oil resistant with good insulating properties.
GALVALUME	- Hot dipped Zinc (CAS 7440-66-6) 43% and Aluminum (CAS 7429-90-5) 55% coating. Coating weights range from 50-150 g/m□ per side. May also be passivated or oiled similar to Galvanize material.		DRY-LUBE PRE-LUBE LUBE OIL	- Mixture of borate and carbonate soap lubricants for metal forming. - Petroleum based oil coating used for metal forming - Lubricating protective petroleum based oil
TIN PLATE	- Electroplated with tin (CAS 7440-31-5) coating. Coating weights range from 0.9-15 g/m□ per side. Treated with Chromium passivation solution which leaves a Chromium residue of 0.05-7.5 g/m□ per side. May be coated with an edible oil to prevent scratching. Oil coating typically 0.1 micro inches thick.		SLUSHING OIL VANISHING OIL PRECOATED	- Mineral oil based protective coating containing small quantities of anti-oxidants - Solvent applied petroleum oil protective coating leaving a wax-like protective coating. - Cured paint/resin film applied to sheet steel. Galvanized or Galvalume coated steel sheet.
CHROMIUM	- Electroplated with Chromium (CAS 7440-47-3) coating. Coating weights range from 0.1-0.17 g/m□ per side. May be coated with edible oil similar to tin plate.		ZINCROMETAL	- Protective coating of zinc rich paint over a chromate based primer compound. Coating is applied to one side of strip. Typical coating weights range from 0.215 -0.325 g/m□
RUST PROTECTION	- Oil based rust inhibitor (*Rust Ban 392*) containing 60-100% light hydrotreated distillates (CAS 64742-47-8).		PRIMER	- Standard Shop Primer Coating for steel (#27452 *Canam Grey*), based on 10-20% light aliphatic naphtha solvent (CAS 64742-89-8), 5-10% petroleum distillates (CAS 68410-16-2) and 5-10% Stoddard solvent (CAS 8052-41-3).

NOTES: 1. Individual coating components are present at values below the reporting requirements of the WHMIS Ingredient Disclosure List.
2. Passivation Treatment (specifically ordered) for Zinc Coated Products may contain hexavalent chromium as a portion of the chromium and chromium oxide corrosion protection coating. In these cases, the actual concentration of hexavalent present varies with steel gauge and coating weight.

4. FIRST AID MEASURES

DESCRIPTION OF NECESSARY FIRST AID MEASURES:

EYE CONTACT: FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.
SEEK MEDICAL ATTENTION IF EYE IRRITATION PERSISTS.

SKIN CONTACT: MAINTAIN GOOD PERSONAL HYGIENE. WASH AFFECTED AREA WITH MILD SOAP AND WATER.
SEEK MEDICAL ATTENTION IF SKIN IRRITATION PERSISTS.

INHALATION: REMOVE TO FRESH AIR. CHECK FOR CLEAR AIRWAY, BREATHING AND PRESENCE OF PULSE.
IF NECESSARY ADMINISTER CPR. CONSULT A PHYSICIAN IMMEDIATELY.

INGESTION: RARE IN INDUSTRY. DUST MAY IRRITATE MOUTH AND GASTROINTESTINAL TRACT.
IF INGESTED, SEEK MEDICAL ATTENTION PROMPTLY.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED:
Steel as sold and shipped is not likely to present an acute or chronic health effects.
However, during processing (cutting, milling, grinding, melting or welding) emitted byproducts may cause irritations, difficulty in breathing, coughing or wheezing. May cause allergic skin reactions.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY:
Notes to physician: May cause sensitization by skin contact or inhalation. Treat symptomatically.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Non-flammable. Will not support combustion. Not applicable for solid product. Use extinguishers appropriate for surrounding materials.
Do not use water on molten metal.

SPECIFIC HAZARDS ARISING FROM MATERIAL: Not applicable for solid product.

HAZARDOUS COMBUSTION PRODUCTS: At temperatures above the melting point, fumes containing metal oxides and other alloying elements may be liberated.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS:
Firefighters should wear self-contained NIOSH-approved breathing apparatus and full protective clothing.

EXPLOSION DATA:
SENSITIVITY TO MECHANICAL IMPACT: None.

SENSITIVITY TO STATIC DISCHARGE: N/A.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
Not applicable to steel in solid state. Avoid dust formation. Ensure adequate ventilation. Clean-up personnel should be protected against contact with eyes and skin protection.

ENVIRONMENTAL PRECAUTIONS: Not applicable to steel in solid state.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:
Not applicable to steel in solid state. For spills involving fine dusts, remove by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid inhalation of dusts.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Not applicable to steel in solid state. Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Practice good housekeeping. Avoid breathing metal fumes and/or dust.

CONDITIONS FOR SAFE STORAGE: No special storage conditions for steel in solid state.

INCOMPATIBLE PRODUCTS: Store away from acids and incompatible materials.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

CONTROL PARAMETERS: There are no exposure limits for steel.
The exposure limit for iron-containing fumes has been established at 5 mg/m3 with ACGIH's TWA. The individual complex compounds within the fume may have lower exposure limits than the general fume.

CHEMICAL NAME	CAS NUMBER	TLV ACGIH (mg/m3)		
Iron	**7439-89-6**	**5.0 (Respirable)**		
Manganese	7439-96-5	0.2 (As inorganic Mn)		
Chromium	7440-47-3	0.5 (Metal & Cr+3) 0.05 (Cr +6 Soluble) 0.01 (Cr +6 Insoluble)		
Nickel	7440-02-0	1.5 (Metal) 0.2 (Insoluble) 0.1 (Soluble)		
Copper	7440-50-8	1.0 (Dust) 0.2 (Fume)		
Phosphorous	7723-14-0	0.1		
Molybdenum	7439-98-7	10.0 (Insoluble) 5.0 (Soluble)		
Lead	7439-92-1	0.05		

NOTES:
- Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH - 2011) are 8-hour Time Weighted Average concentrations unless otherwise noted.

APPROPRIATE ENGINEERING CONTROLS: Provide general or local exhaust to minimize airborne concentrations during milling, grinding, melting and welding operations.

INDIVDUALAL PROTECTIVE MEASURES: Dependent upon process being performed on material each operation must be addressed for suitable equipment.

GLOVES (Specify): Wear gloves as required
EYES (Specify): Safety glasses or goggles as required.
CLOTHING (Specify): N/A
FOOTWEAR (Specify): N/A
RESPIRATOR (Specify): If concentrations exceed established limits use NIOSH/MSHA approved particulate respirators (dust & fume or high efficiency dust fume) when grinding or welding.
OTHER (Specify): N/A

9. CHEMICAL AND PHYSICAL PROPERTIES

PHYSICAL STATE:	Solid	**APPEARANCE:**	Silver Grey Metallic (Steel)

ODOUR:	Not Applicable	**ODOUR THRESHOLD:**	Not Applicable
pH:	Not Applicable	**MELTING POINT:**	1530°C (2786°F)
BOILING POINT:	Not Applicable	**FLASH POINT (°C):**	N/A
EVAPORATION RATE:	Not Applicable	**FLAMMIBILITY (solid, Gas):**	Not flammable
UPPER FLAMMABLE LIMIT %:	Not Applicable	**LOWER FLAMMABLE LIMIT %:**	Not Applicable
VAPOUR PRESSURE:	Not Applicable	**VAPOUR DENSITY:**	Not Applicable
RELATIVE DENSITY:	7.86	**SPECIFIC GRAVITY:**	No data
SOLUBILITY:	Not soluble	**PARTITION COEFFICIENT:**	No data
AUTO-IGNITION TEMP (°C):	Not Applicable	**DECOMPOSITION TEMPERATURE:**	No data
VISCOSITY:	Not Applicable		
OTHER INFORMATION:	Not Applicable		

10. STABILITY AND REACTIVITY

REACTIVITY: Not determined for product in solid form.

CHEMICAL STABILITY: Yes. Steel products are stable under normal storage and handling conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization cannot occur.

CONDITIONS TO AVOID: Contact with mineral acids will release flammable hydrogen gas. Dust formation.

INCOMPATIBLE MATERIALS: Yes, strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable.

11. TOXICOLOGICAL INFORMATION

TOXICITY:

COMPONENT	LD_{50} ORAL	LD_{50} DERMAL	LD_{50} INHALATION	OTHER
Iron	**30,000 mg/kg Oral-Rat**	**-**	**-**	**-**
Manganese	9000 mg/kg Oral-Rat	-	-	-
Chromium	Unknown	-	-	-
Nickel	>9000 mg/kg Oral-Rat	-	-	-
Copper	Unknown	-	-	-
Phosphorous	Unknown	-	-	-
Molybdenum	Unknown	-	-	-
Lead	Unknown	-	-	-

LIKELY ROUTES OF ENTRY: None for steel in its natural solid state.
EYES: High concentrations of dust may cause irritation to the eyes.
SKIN: Prolonged skin contact with coated steel may cause skin irritation in sensitive individuals.
INHALATION: Inhalation of metal particulate or elemental oxide fumes generated during welding, burning, grinding or machining may pose acute or chronic health effects.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:
None for steel in its natural solid state.

EFFECTS OF ACUTE EXPOSURE TO MATERIAL: MANGANESE & COPPER: Inhalation overexposure to manganese or copper (or zinc coated products) may cause metal fume fever characterized by fever and chills (i.e. flu-like symptoms) which appear 4-6 hours after exposure with no long-term effects.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL: CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category - "confirmed human carcinogens" and metallic chromium under its Group 3 category - "not classifiable as to their carcinogenicity to humans". Chromium metal is classified as carcinogenic by NTP.
NICKEL: IARC lists metallic nickel under its Group 2B category - "possibly carcinogenic to humans". Nickel may cause skin sensitivity
COBALT: Cobalt dust may result in an asthma-like condition (cough, shortness of breath). IARC lists metallic cobalt under its Group 2B category - "possibly carcinogenic to humans".
IRON: Inhalation overexposures may cause a benign pneumoconiosis (siderosis) with few or no symptoms.
MANGANESE: Existing studies are inadequate to assess its carcinogenicity. Susceptible to Parkinson's disease, metal fume fever and kidney damage.

STOT (Single Exposure): No data

STOT (Repeated Exposures): Respiratory system. Allergic skin reactions.

MUTAGENCITY OF MATERIAL: N/A

REPRODUCTIVE EFFECTS: N/A

TERATOGENICITY OF MATERIAL: N/A

CARCINOGENICITY OF MATERIAL: CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category - "confirmed human carcinogens" and metallic chromium under its Group 3 category - "not classifiable as to their

carcinogenicity to humans".
NICKEL: IARC lists metallic nickel under its Group 2B category - "possibly carcinogenic to humans".
COBALT: IARC lists metallic cobalt under its Group 2B category - "possibly carcinogenic to humans".
LEAD: IARC lists lead and its inorganic compounds under its Group 2B category - "possibly carcinogenic to humans".

SYNERGISTIC MATERIALS: N/A

ASPIRATION HAZARD: No data.

SENSITIZATION OF MATERIAL; N/A

LD_{50} (of Material): Not established **LC_{50} (of Material):** Not established

NOTES:

- STOT – Specific Target Organ Toxicity
- International Agency for Research on Cancer (IARC) - Summaries & Evaluations (2008).
- 3rd Annual Report on Carcinogens as prepared by the National Toxicology Program (NTP).
- Iron containing welding fume has an exposure limit of 5 mg/m³ (ACGIH-TLV's 2011). Welding fume may also contain contaminants from fluxes or welding consumables. Prolonged skin contact may cause reddening and drying of skin or dermatitis in sensitive individuals due to nickel and/or chromium content in steel.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No data available for the stainless steel in its natural solid state. However, individual components of the material have been found to be toxic to the environment.

COMPONENT	TOXICITY TO FISH	TOXICITY TO ALGAE	TOXICITY TO MICROORGANISMS
Iron	LC50 Common Carp 96 hr. 0.56 mg/l	-	-
Chromium	LC50 Fathead minnow 96 hr. 10-100 mg/l	-	-
Nickel	LC50 Common Carp 96 hr. 1.3 mg/l	EC50 Freshwater Algae 72 hr. 0.18 mg/l	EC50 Water Flea 48 hr. 1.0 mg/l
Lead	LC50 Common Carp 96 hr. 0.44 mg/l	-	EC50 Water Flea 48 hr. 0.0006 mg/l

PERSISTENCE AND DEGRADABILITY: No data available.

BIOACCUMULATIVE POTENTIAL: No data available.

MOBILITY IN SOIL: No data available for steel in its natural solid state. Individual metal dusts may migrate into soil and groundwater and be absorbed by plants.

OTHER ADVERSE EFFECTS: None known.

13. DISPOSAL INFORMATION

WASTE DISPOSAL METHODS: Steel scrap should be recycled whenever possible.

CONTAINER CLEANING & DISPOSAL: Dispose of in accordance with applicable federal, provincial/state or local regulations.

14. TRANSPORTATION INFORMATION

GENERAL SHIPPING INFORMATION: Steel not regulated for shipping.

SHIPPING NAME AND DESCRIPTION: N/A
UN NUMBER: N/A
HAZARD CLASS: N/A
PACKING GROUP/RISK GROUP: N/A

TRANSPORT REGULATIONS:
Canadian Transportation of Dangerous Goods Regulations (TDG) March 2011.
US Department of Transport (DOT) Hazardous Materials shipping information (Title 49 - Transportation March 2011).

15. REGULATORY INFORMATION

REGULATORY INFORMATION: *The following listing of regulations relating to a Russel Metals Inc. product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

ADDITIONAL CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Class D2A/D2B: Materials Causing Other Toxic Effects.
DOMESTIC SUBSTANCES LIST: The components of this material are on the federal DSL Inventory.
OTHER CANADIAN REGULATIONS: N/A

ADDITIONAL U.S. REGULATIONS:
SARA: The components of this material are subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA – Oct. 2006), as follows:

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)	CERCLA Reportable Quantities
Chromium	No	No	Yes	5,000 lb.
Copper	No	No	Yes	5,000 lb.
Lead	No	No	Yes	10 lb.
Manganese	No	No	Yes	None listed

Nickel	No	No	Yes	100 lb.
Phosphorus	Yes	Yes	Yes	1 lb.
Vanadium	No	No	No	None listed

SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this material. Threshold Planning Quantities for Phosphorous is 100 lb. (45.4 kg), per 40 CFR 370.20.

TSCA INVENTORY STATUS: The components of this material are listed on the Toxic Substances Control Act Inventory.

CERCLA REPORTABLE QUANTITY (RQ): RQ's for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are: Chromium = 5000 lb. (2270 kg); Copper = 5000 lb. (2270 kg); Nickel = 100 lb. (45 kg); Phosphorous 1 lb. (0.454 kg).

CALIFORNIA (PROPOSITION 65): The Chromium (VI) component of this material is known in the State of California to cause cancer.
The Nickel component of this material is known in the State of California to cause cancer.
The Cobalt component of this material is known in the State of California to cause cancer.
The Lead component of this material is known in the State of California to cause cancer, and/or birth defects (or other reproductive harm).

OTHER U.S. FEDERAL REGULATIONS: Lead is regulated under 29 CFR 1910.1025.

ADDITIONAL EUROPEAN UNION REGULATIONS:

RoHS & WEEE: This MSDS follows the European Union Directive "Restriction on the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment" (2002/95/EC) and the "Waste Electrical and Electronic Equipment (WEEE)" Directive (2002/96/EC).

Lead (Pb): The leaded low alloy steel has a lead content of <0.35%, which is above the EU Directive limit of 0.1%.
Lead is not intentionally added to other steel alloys however, it may exist in trace levels.
Note, the EU Directive has a lead exemption limit of up to 0.35% as an alloying element in steel.

Chromium VI (Cr +6): The hexavalent oxidation state of chromium does not normally exist as part of a metal or alloy.

16. OTHER INFORMATION

STEEL

HAZARD LABEL RATING SYSTEMS:

NATIONAL FIRE PROTECTION CODE:
NFPA CODE: H=0 F=0 R=0

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM:
HMIS CODE: H=1* F=0 R=0 PPE: See Section 8

HEALTH	1
FLAMMIBILITY	0
REACTIVITY	0
OTHER	*

* Denotes possible chronic hazard if airborne dusts or fumes are generated.

PREPARED BY: RUSSEL METALS INC. AND ENVIROTEST INC. **DATE:** AUGUST 2014

TELEPHONE: 905-819-7295 **NOTE:** CONTACT SUPPLIER FOR ADDITIONAL PRODUCT INFORMATION

DISCLAIMER: THE INFORMATION CONTAINED HEREIN BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF.

M A T E R I A L S A F E T Y D A T A S H E E T

For manufactured welding consumables and related Products
Conform to Hazard Communication Standard 29CFR 1910.1200 Rev. October 1988

Manufacturer / Supplier :	product type:
SIDERGAS SPA **Viale Rimembranza # 17** **37010 S. AMBROGIO (VERONA) ITALY**	**CARBON STEEL ELECTRODE SIDERGAS S6** **conforms to:** **AWS SFA 5.18 grade ER70S-6 (EN 440 G3Si1)**

SECTION II - HAZARDOUS MATERIAL (1)

IMPORTANT!!
This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V: see it for industrial hygene information.
CAS Number shown is representative for the ingredients listed.
(1) The term "Hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard.

INGREDIENTS	CAS No.	WT. %	TLV mg/m^3	PEL mg/m^3
CARBON STEEL WIRE		**100**	**10***	**10***
Nominal Composition:				
Total manganese **	**7439-96-5**	**< 2**	**0.2**	**1.0 (c)**
Total Copper including Copper coating	**7440-50-8**	**< 0.5**	**0.2(a)**	**0.1(a)**
Iron	**7439-89-6**	**Bal.**	**10***	**10***

SUPPLEMENTAL INFORMATION:
(*) Not listed Nuisance value. Maximum is 10 mg per cubic meter. PEL value for iron oxide is 10 mg/m3. TLV value for iron oxide is 5 milligrams per cubic meter.
(**) Subject to the reporting requirement of section 311, 312 and 313 of the Emergency Planning and Community Right-to-know Act of 1986 and of 40CFR 370 and 372
(a) Values are for copper fume.
(c) Ceiling Value not to be exceeded at any time.

SECTION III - FIRE AND EXPLOSION HAZARD DATA

Non Flammable; Welding are and sparks can ignite Combustible And flammable products. See Z49.1 referenced in Section VI.

SECTION IV - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: The ACGIH recommended general limit for Welding Fume NOC - (Not otherwise Classified) is 5 mg/m3. ACGIH-1987-88 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See section V for specific fume constituents which may modify this TLV. Threshold Limit values are figures published by the American Conference of Government Industrial Hygienists. Units are milligram per cubic meter of air.
EFFECTS OF OVEREXPOSURE: Electric arc welding may create one or more of the following health hazards:

- Fumes and Gases can be dangerous to your health. Common entry is by inhalation.
- Short term (acute) overexposure to welding fumes mav result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat, or eyes.
- Long-term (chronic) overexposure to welding fumes call lead to siderosis (iron deposit in lung) and affect pulmonary function.
- Arc Rays can injure eyes and burn skin. Electric shock can kill.

Emergencies and First Aid procedures: Call for medical aid.Employ first aid techniques recommended by the American Red Cross. IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (CardiopulmonarJi Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. IN ALL CASES CALL A PHYSICIAN.

SECTION V - REACTIVITY DATA

HAZARDOUS DECOMPOSITION PRODUCTS: welding fumes and gases cannot be classified simply. The composition and quantity are dependent upon the metal being welded the process, procedure and electrode used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint. plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities.)

When the electrode is consumes, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilizatic reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc.. as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxides and fluorides; secondarily complex oxides of aluminum. calcium. magnesium, manganese, potassium. silicon, sodium. titanium and zirconium, when used with fluxes. Primarily Iron oxide, secondarily complex oxides of copper, manganese and silicon when used with gas shielding. Maximum fume exposure guidelines and PEL for this product is 5.0 milligrams per cubic meter.

Gaseous reaction products mav include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

One recommended way to determine the composition and quantity of fumes and gases to which workets are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS 11. 1 “Method for Sampling Airborne Particles generated by Welding and Allied processes'. available from the American Welding Society, 550 N.W. LeJeune Road. Miami FLA 33126.”

SECTION VI AND VII
CONTROL MEASURES AND PRECAUTIONS
FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard 249.1, 'Safetv in Welding and Cutting' published by the American Welding Society, 550 N.W. LeJeune Road Miami FLA 33126 and OSHA Publication 2206 (29CFR1910). U.S. Government Printing office, Washington, D.C. 20402 for more details on many of the following:

VENTILATION: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

EYE PROTECTION: Wear helmet or use face shield with filter lens shade number 12* or darker. Shield others by providing screens and flash goggles. *(*) no specific recommendation for submerged arc.*

PROTECTIVE CLOTHING: Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1. At minimum this includes welder's gloves and protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark suitable clothing. Train the welder not to permit electrically live parts or electrodes to contact skin ... or clothing or gloves if they are wet. Insulate from work and ground.

DISPOSAL INFORMATION: Discard any product, residue, disposable container or liner as ordinary waste in an environmentally acceptable manner unless otherwise noted.

MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Carquest Windshield De-Icer** (aerosol)

Product Number (s): **1090 (CRC Part# 09751)**

Product Use: melt ice on windshields

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: POISON. Flammable. Vapor Harmful. May be Fatal or Cause Blindness if Swallowed. Contents Under Pressure.

Appearance & Odor: Colorless liquid, characteristic pungent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation. Symptoms include stinging, tearing, and redness.

SKIN: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful, and may cause irritation of airways, dizziness, drowsiness, nausea, and vomiting.

INGESTION: Swallowing this material may be harmful. Symptoms may include nausea, vomiting, dizziness, leg cramps, pain in the abdomen or lower back, blurred vision, shortness of breath, visual impairment (including blindness), coma and death.

CHRONIC EFFECTS: Overexposure to this material may cause liver abnormalities, central nervous system damage, and visual impairment.

TARGET ORGANS: Liver, kidneys, pancreas, heart, lungs, and brain

Medical Conditions Aggravated by Exposure: Pre-exiting disorders of the following organs: Skin, lung, liver, kidney central nervous system, pancreas, and heart.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition / Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Methanol	67-56-1	85 - 95
Water	7732-18-5	3 - 8
Propylene glycol	57-55-6	< 1
Carbon dioxide	124-38-9	5 - 10

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Note to Physicians: Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 µg/dl. Methanol is effectively removed by hemodialysis. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and may be used as an antidote in the treatment of methanol poisoning.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point:	54°F / 12°C (TCC)	Upper Explosive Limit:	36
Autoignition Temperature:	725°F / 385°C	Lower Explosive Limit:	7.3

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, alcohol-resistant foam, carbon dioxide (CO_2)

Products of Combustion: Carbon dioxide and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains. If run-off occurs, notify the proper authorities as required, that a spill has occurred.

Methods for Containment & Clean-up: Eliminate all ignition sources. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing.

Aerosol Storage Level: III

Section 8: Exposure Controls / Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Methanol	200	NE	200 (s)	250 (s)	NE	NE	ppm
Water	NE	NE	NE	NE	NE		
Propylene glycol	NE	NE	NE	NE	10	AIHA	mg/m^3
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection:	For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.
Skin Protection:	Use protective gloves such as nitrile or natural rubber. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: colorless
Odor: characteristic pungent odor
Odor Threshold: ND
Specific Gravity: 0.809
Initial Boiling Point: 148.5°F / 65°C
Freezing Point: ND
Vapor Pressure: 16.93 kPa @ 77°F / 25°C
Vapor Density: 1.1 (air = 1)
Evaporation Rate: fast
Solubility: completely soluble in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 87.8 g/L: 710.3 lbs./gal: 5.92

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition

Incompatible Materials: Hypochlorites, peroxides, reactive metals such as aluminum and magnesium,, sodium, strong acids, strong bases, strong oxidizing agents, zinc

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Methanol	5628 mg/kg	15,800 mg/kg	64,000 ppm/4H
Water	> 90 mL/kg	No data	No data
Propylene glycol	20 g/kg	20,000 mg/kg	4.1 mg/L/8H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Methanol	No	No	No	eye, skin	Unknown
Water	No	No	No	No	No
Propylene glycol	No	No	No	No	No
Carbon dioxide	No	No	No	No	No

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: No information available
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste codes: D001, U154. (See 40 CFR Part 261.20 – 261.33) Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, flammable, 2.1, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, flammable, 2.1, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.1, Limited Quantity

Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Methanol (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	Yes
Reactive Hazard	No
Release of Pressure	Yes
Acute Health Hazard	Yes
Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Methanol (<88%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Methanol

Occupational Safety and Health Administration (OSHA):

This product is regulated under the Hazard Communication Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Methanol

Consumer Products VOC Regulations: None

State Right to Know:

New Jersey:	67-56-1, 57-55-6, 124-38-9
Pennsylvania:	67-56-1, 57-55-6, 124-38-9
Massachusetts:	67-56-1, 57-55-6, 124-38-9
Rhode Island :	67-56-1, 57-55-6, 124-38-9

Canadian Regulations:

Controlled Products Regulations:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, B5, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

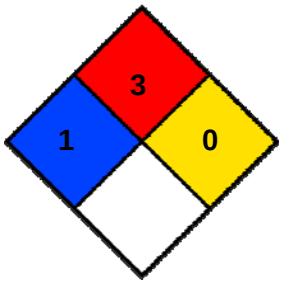
RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	**1**
Flammability:	**3**
Reactivity:	**0**
PPE:	**B**

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 638
Revision Date: 11/21/2013

Changes since last revision: Section 15: Prop 65

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose
NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

CHEMTOOL INCORPORATED

MATERIAL SAFETY DATA SHEET
CAT ANAEROBIC SEALANT PRIMER (AEROSOL)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME CAT ANAEROBIC SEALANT PRIMER (AEROSOL)

PART No. Chemtool, 840310, Caterpillar, 169-5464

SUPPLIER
Chemtool Incorporated
P.O. Box 538
8200 Ridgefield Road
Crystal Lake, IL 60039-0538 USA
Tel: (815) 459-1250
Fax: (815) 459-1955

EMERGENCY TELEPHONE
Rocky Mountain Poison Center
Denver, Colorado
In USA and Canada - (800) 458-5924
Outside USA and Canada - +01-303-893-1322

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
*ACETONE	67-64-1	>98 %
*NAPHTHENIC ACIDS, COPPER SALTS	1338-02-9	<1 %

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

***COMPOSITION COMMENTS** Refer to section eight for exposure limits on ingredients.
Chemical ingredients not regulated by OSHA, SARA, state or federal agencies are treated confidentially.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Extremely flammable liquid or liquefied gas. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

HEALTH HAZARDS, GENERAL Irritating to eyes, respiratory system, and skin.

SENSITIZATION No known information.

CARCINOGENICITY	OSHA: Not regulated. NTP: Not listed. IARC: Not listed as a Group 1, 2A, or 2B agent.
TERATOGENICITY	No known information.
HEALTH WARNINGS	INHALATION. Gas or vapor can irritate airways and lungs. EYE CONTACT. Irritating. INGESTION. Can cause stomach ache and vomiting. SKIN CONTACT. Slightly irritating. Repeated or prolonged contact can result in drying of the skin.
ROUTE OF ENTRY	Skin and/or eye contact. Ingestion. Inhalation.

4. FIRST AID MEASURES

INHALATION	Remove victim immediately from source of exposure. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.
EYES	Important! Immediately rinse with water for at least 15 minutes. Get medical attention if any discomfort continues.
SKIN	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
INGESTION	DO NOT induce vomiting. Get medical attention immediately. Do not give victim anything to drink if he is unconscious.

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)	- 20 (-4 F) Sh CC (Setaflash closed cup).
FLAMMABILITY LIMIT - LOWER(%)	2.1
FLAMMABILITY LIMIT - UPPER(%)	13
EXTINGUISHING MEDIA	Use: Carbon dioxide (CO2). Foam. Dry chemicals.
SPECIAL FIRE FIGHTING PROCEDURES	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.
UNUSUAL FIRE & EXPLOSION HAZARDS	Aerosol cans may explode in case of fire.
HAZARDOUS COMBUSTION PRODUCTS	Irritating gases/vapors/fumes. Oxides of: Carbon.

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES	Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.

STORAGE PRECAUTIONS Keep away from heat, sparks and open flame. Store separated from: Oxidizing materials.

STORAGE CRITERIA Flammable compressed gas storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
ACETONE	OSHA	1000 ppm	N/E	2400 mg/m3	
	ACGIH	500 ppm	750 ppm	1188 mg/m3	1782 mg/m3
	NIOSH	250 ppm	N/E		

PROTECTIVE EQUIPMENT

ENGINEERING CONTROLS Use engineering controls to reduce air contamination to permissible exposure level.

VENTILATION No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.

RESPIRATORS No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

PROTECTIVE GLOVES For prolonged or repeated skin contact use suitable protective gloves.

EYE PROTECTION Wear splash-proof eye goggles to prevent any possibility of eye contact.

PROTECTIVE CLOTHING Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE Aerosolized Liquid

COLOR Green.

ODOR Acetone, ketone.

SOLUBILITY DESCRIPTION	Soluble in water.		
BOILING POINT (°C, range)	56 (133 F)	**Pressure**	760mmHg
SPECIFIC GRAVITY	0.79		
VAPOR DENSITY (air=1)	2.0		
VAPOR PRESSURE	185 mmHg	**Temperature (°C)**	20 (68°F)
EVAPORATION RATE	14.4	**Reference**	BuAc=1

10. STABILITY AND REACTIVITY

STABILITY	Normally stable.
CONDITIONS TO AVOID	Avoid contact with acids and oxidizing substances.
HAZARDOUS POLYMERIZATION	Will not polymerize.
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION No experimental toxicological data on the preparation as such is available.

COMPONENT	**ACETONE**
TOXICOLOGICAL DATA	Irritating effects. WHMIS (Canada) Eye. D2B
TOXIC DOSE - LD 50	5800 mg/kg (oral rat)
TOXIC CONC. - LC 50	N/A.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION No data on possible environmental effects have been found.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Dispose of in accordance with Local Authority requirements. Confirm disposal procedures with environmental engineer and local regulations. DO NOT puncture spraycan. DO NOT burn empty containers due to explosion risk.
WASTE CLASSIFICATION	D001 Ignitible

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME Consumer Commodity

DOT HAZARD CLASS ORM-D (Other Regulated Material D).

LABEL FOR TRANSPORT

TDGR CLASS Not Regulated.

UN No. SEA UN1950

IMDG CLASS 2.1

SEA TRANSPORT NOTES Aerosols

UN No., AIR UN11950

ICAO CLASS 2.1

AIR TRANSPORT NOTES Aerosols, flammable

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
ACETONE	No	5 000 lbs	No
NAPHTHENIC ACIDS, COPPER SALTS	No	***	N100 - Cu

REGULATORY STATUS *** Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting under Section 313.

CLEAN AIR ACT

SARA HAZARD CATEGORIES Acute Chronic Fire

US STATE REGULATIONS

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
NAPHTHENIC ACIDS, COPPER SALTS						EH	

STATE REGULATORY STATUS** CALIFORNIA PROPOSITION 65: This product ***DOES NOT contain chemicals

considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required.
PENNSYLVANIA RIGHT-TO-KNOW: This product contains the following chemicals that the state of Pennsylvania has identified as Special Hazardous Substances (SHS), Environmental Hazards (EH), or both (ESHS). The PA regulations require that the MSDS identify all SHS or EH chemicals by chemical name, common name, and CAS Number if they comprise 0.01% or more.
Copper compounds regulated under CERCLA and SARA 313, Environmental Hazard

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

LABEL(S) FOR SUPPLY

CONTROLLED PRODUCT CLASSIFICATION

B5 - Flammable Aerosols
D2B - Chronic Toxic Material

Risk phrases

R-11 Highly flammable.
R-36 Irritating to eyes.
R-66 Repeated exposure may cause skin dryness or cracking.
R-67 Vapours may cause drowsiness and dizziness.

GLOBAL INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
ACETONE	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
NAPHTHENIC ACIDS, COPPER SALTS	DSL	Yes	EINECS					

CANADA CEPA: All components of this product comply with new substance notification requirements under the Canadian Environmental Protection Act (CEPA).

16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

HEALTH Temporary incapacitation, injury (2) - HMIS/NFPA

FLAMMABILITY Extremely flammable (4) - HMIS/NFPA

REACTIVITY Normally Stable (0) - HMIS/NFPA

PERSONAL PROTECTION INDEX G - Safety Eyewear, Gloves and Vapor Respirator

PREPARED BY Max Zerla
James W. Hermann

***Replacement MSDS of**	2005-06-28
***DATE**	2006-03-24
PRINTING DATE:	2006-03-24
DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.

*** Information revised since previous MSDS version**

Material Safety Data Sheet

CAT ASSEMBLY LUBRICANT

1. Product and company identification

Material uses : Industrial applications: Lubricants.

Manufacturer : Chemtool Incorporated
801 West Rockton Road
Rockton, IL 61072 U.S.A.
Tel: +01 815.957.4140
Fax: +01 815.624.0292

Product code : 8425300000

MSDS # : 1687

Validation date : 3/7/2013.

In case of emergency : INFOTRAC
U.S. and Canada - 800.535.5053
Outside the U.S. and Canada - +01 352.323.3500

2. Hazards identification

Emergency overview

Physical state : Liquid

Color : Milky white

Odor : Mild.

Hazard statements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

2. Hazards identification

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

Medical conditions aggravated by over-exposure : None known.

See toxicological information (Section 11)

3. Composition/information on ingredients

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
No exposure limit value known.	

Canada

Occupational exposure limits

No exposure limit value known.

Mexico

Occupational exposure limits

No exposure limit value known.

Consult local authorities for acceptable exposure limits.

8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Milky white

Odor : Mild.

pH : 7.5 to 8.5

Boiling/condensation point : 100°C (212°F)

Melting/freezing point : 0°C (32°F)

Density : 0.965 g/cm^3

Vapor pressure : Not available.

Vapor density : Not available.

9. Physical and chemical properties

Volatility : Not available.

Evaporation rate : Not available.

Viscosity : Not available.

Dispersibility properties : Easily dispersible in the following materials: cold water.

Solubility : Not available.

VOC : 10 g/L

VOC Method : ASTM E 1868

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Canada

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Mexico

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

11. Toxicological information

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

12. Ecological information

Ecotoxicity : Inherently biodegradable

United States

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Expected to be inherently biodegradable This product is not expected to bioaccumulate through food chains in the environment.

Canada

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Expected to be inherently biodegradable This product is not expected to bioaccumulate through food chains in the environment.

Mexico

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Expected to be inherently biodegradable This product is not expected to bioaccumulate through food chains in the environment.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

13. Disposal considerations

safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : **TSCA 8(a) IUR Exempt/Partial exemption**: Not determined

Commerce control list precursor: 2,2',2''-nitrilotriethanol

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 311: cyclohexane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

15. Regulatory information

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements :	No listed substance		
Supplier notification :	No listed substance		

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Connecticut Carcinogen Reporting : None of the components are listed.

Connecticut Hazardous Material Survey : None of the components are listed.

Florida substances : None of the components are listed.

Illinois Chemical Safety Act : None of the components are listed.

Illinois Toxic Substances Disclosure to Employee Act : None of the components are listed.

Louisiana Reporting : None of the components are listed.

Louisiana Spill : None of the components are listed.

Massachusetts Spill : None of the components are listed.

Massachusetts Substances : None of the components are listed.

Michigan Critical Material : None of the components are listed.

Minnesota Hazardous Substances : None of the components are listed.

New Jersey Spill : None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act : None of the components are listed.

New Jersey Hazardous Substances : None of the components are listed.

New York Acutely Hazardous Substances : None of the components are listed.

New York Toxic Chemical Release Reporting : None of the components are listed.

Pennsylvania RTK Hazardous Substances : None of the components are listed.

Rhode Island Hazardous Substances : None of the components are listed.

California Prop. 65

None of the components are listed.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory; DSL/ NDSL : All components are listed or exempted.

15. Regulatory information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.
Europe inventory : All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

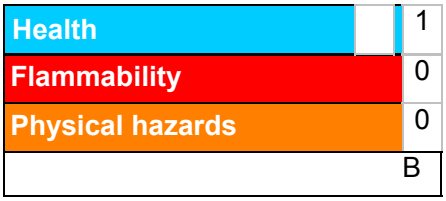
Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

16. Other information

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Date of issue	:	3/7/2013.
Date of previous issue	:	3/7/2013.
Version	:	1.01
Prepared by	:	Regulatory Department, Chemtool Inc.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Revision date 27-Dec-2015 **Version** 3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 4C-4183, 4C-4191

Product Name CAT BLACK PAINT MEDIUM GLOSS

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Paint, Coatings

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Highly flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool.

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Not applicable.

OTHER HAZARDS
Toxic to aquatic life with long lasting effects. Harmful to aquatic life. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%
Solvent naphtha, petroleum, medium aliphatic	64742-88-7	10 - 25
Solvent naphtha, petroleum, light aliphatic	64742-89-8	10 - 25
Stoddard solvent	8052-41-3	1 - 3
Propylene glycol monomethyl ether	107-98-2	1 - 3
Carbon black	1333-86-4	1 - 3
Naphtha, petroleum, hydrotreated heavy	64742-48-9	1 - 3
Petroleum distillates, hydrotreated light	64742-47-8	1 - 3
Naphtha, petroleum, hydrodesulfurized heavy	64742-82-1	1 - 3
Toluene	108-88-3	1 - 3
2-Butanone, oxime	96-29-7	0.1 - 0.3
Zirconium ethyl hexoate	22464-99-9	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Take precautionary measures against static discharges.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Keep tightly closed in a dry and cool place.

Incompatible materials
Strong oxidizing agents. Acids. Alkali.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH

Stoddard solvent 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m³	IDLH: 20000 mg/m³ Ceiling: 1800 mg/m³ 15 min TWA: 350 mg/m³
Propylene glycol monomethyl ether 107-98-2	STEL: 100 ppm TWA: 50 ppm		TWA: 100 ppm TWA: 360 mg/m³ STEL: 150 ppm STEL: 540 mg/m³
Carbon black 1333-86-4	TWA: 3 mg/m³ inhalable fraction	TWA: 3.5 mg/m³	IDLH: 1750 mg/m³ TWA: 3.5 mg/m³ TWA: 0.1 mg/m³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³
Zirconium ethyl hexoate 22464-99-9	STEL: 10 mg/m³ Zr TWA: 5 mg/m³ Zr	TWA: 5 mg/m³ Zr	IDLH: 25 mg/m³ Zr TWA: 5 mg/m³ except Zirconium tetrachloride Zr STEL: 10 mg/m³ Zr

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid
Appearance	No information available
Odor	Solvent
Color	black
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	90 °C / 194 °F
flash point	19 °C / 66 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available

Flammability Limit in Air

Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	8.21
specific gravity	.98
Solubility(ies)	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents. Acids. Alkali.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO_2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Not applicable
Skin Contact
Causes skin irritation
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Stoddard solvent 8052-41-3	-	-	-
Propylene glycol monomethyl ether 107-98-2	= 5000 mg/kg (Rat)	= 13 g/kg (Rabbit)	> 6 mg/L (Rat) 4 h
Carbon black 1333-86-4	-	-	-
Naphtha, petroleum, hydrotreated heavy 64742-48-9	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	-

Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Naphtha, petroleum, hydrodesulfurized heavy 64742-82-1	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h
Zirconium ethyl hexoate 22464-99-9	-	-	-

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 72886 Mg/kg
ATEmix (dermal) 218659 Mg/kg
ATEmix (inhalation-dust/mist) 365.2 mg/l
ATEmix (inhalation-vapor) 2187 mg/l

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity
According to IARC, Volume 93, no significant exposure to primary particles of carbon black is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Carbon black 1333-86-4	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation Causes skin irritation
Serious eye damage/eye irritation Not applicable
Skin sensitization May cause an allergic skin reaction
Respiratory sensitization Not applicable
Germ cell mutagenicity Not applicable
Carcinogenicity Suspected of causing cancer
Reproductive Toxicity Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure) May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Causes damage to organs through prolonged or repeated exposure
Aspiration hazard Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects.

Environmental precautions Prevent product from entering drains.

Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT
Marine pollutant This material meets the definition of a marine pollutant

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	UN1263	UN1263	UN1263
14.2 Proper shipping name	Paint	Paint	Paint
14.3 Hazard Class	3	3	3
14.4 Packing Group	II	II	II
14.5 Environmental hazard	Yes		
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to DOT		
Marine pollutant	This material meets the definition of a marine pollutant		
Marine pollutant	Solvent naphtha, petroleum, medium aliphatic , Solvent naphtha, petroleum, light aliphatic		
14.6 Special Provisions	149, B52, IB2, T4, TP1, TP8, TP28	163	A3, A72
	Emergency Response Guide Number 128	**EmS-No** F-E, S-E	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing.

DSL - Canadian Domestic Substances List — All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Zinc oxide 1314-13-2 1 - 3	1	
Toluene 108-88-3 1 - 3	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances

Toluene 108-88-3	1000 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

Rule 66 status of product
Not photochemically reactive.

California Proposition 65
WARNING! This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information
EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Solvent naphtha, petroleum, medium aliphatic 64742-88-7
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Limestone 1317-65-3
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Proprietary Inert
Zinc oxide 1314-13-2
Stoddard solvent 8052-41-3
Propylene glycol monomethyl ether 107-98-2
Carbon black 1333-86-4
Naphtha, petroleum, hydrotreated heavy 64742-48-9
Petroleum distillates, hydrotreated light 64742-47-8
Naphtha, petroleum, hydrodesulfurized heavy 64742-82-1
Toluene 108-88-3
2-Butanone, oxime 96-29-7
Zirconium ethyl hexoate 22464-99-9

Section 16: OTHER INFORMATION

HMIS
Health hazards 3*
** = Chronic Health Hazard*
Flammability 3

Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By	Product Stewardship
Revision date	27-Dec-2015
Revision Note	No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID:	**4C-4183, 4C-4191**
Product Name:	CAT BLACK PAINT MEDIUM GLOSS
Product Use:	Paint or Coatings Related Product
Print date:	17/Jan/2014
Revision Date:	17/Jan/2014

Company Identification
The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

Manufacturer's Phone:	1-612-851-7000
24-Hour Medical Emergency Phone:	1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:
Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- May cause defatting of the skin.
- Dermatitis

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Harmful if swallowed.

- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.

Target Organ and Other Health Effects:
- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Liver injury may occur.

This product contains ingredients that may contribute to the following potential chronic health effects:
- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- Prolonged exposure over TLV may produce pneumoconiosis.

Teratogens:
- May cause birth defects.
- Female reproductive toxin.

Carcinogens:
- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name
NAPHTHA 64742-88-7	20 - 25	SOLVENT NAPHTHA, PETROLEUM, MEDIUM ALIPH
NAPHTHA 64742-89-8	15 - 20	SOLVENT NAPHTHA, PETROLEUM, LIGHT ALIPH
PROPRIETARY INERT	5 - 10	PROPRIETARY INERT
PROPRIETARY INERT	5 - 10	PROPRIETARY INERT
ETHYL 3-ETHOXYPROPIONATE 763-69-9	1 - 5	Ethyl 3-ethoxypropionate
ZINC OXIDE 1314-13-2	1 - 5	ZINC OXIDE
STODDARD SOLVENT 8052-41-3	1 - 5	Stoddard solvent
PROPYLENE GLYCOL MONO METHYL ETHER 107-98-2	1 - 5	Propylene glycol monomethyl ether
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5	Carbon black
MINERAL SPIRITS 64742-47-8	1 - 5	Petroleum distillates, hydrotreated light
NAPHTHA 64742-48-9	1 - 5	Naphtha, petroleum, hydrotreated heavy
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY 64742-82-1	1 - 5	Naphtha, petroleum, hydrodesulfurized heavy

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

TOLUENE 108-88-3	1 - 5	Toluene

If this section is blank there are no hazardous components per OSHA guidelines.

4. FIRST AID MEASURES

Eye Contact:
Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:
Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:
Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:
Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.

Medical conditions aggravated by exposure:
Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	67
Flash point (Celsius):	19
Lower explosive limit (%):	1
Upper explosive limit (%):	7
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:
Contaminated rags, wipes, saw dust, etc., may catch fire spontaneously. Store waste under water in closed metal containers or in approved self-closing containers designed to prevent spontaneous combustion until disposed of in compliance with applicable regulations. Oxidizing Material

Extinguishing media:
Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:
Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:
Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:
Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:
Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:
Appropriate chemical resistant gloves should be worn.

Other Personel Protection Data:
Ensure that eyewash stations and safety showers are close to the workstation location. To prevent skin contact wear protective clothing covering all exposed areas.

Respiratory protection:
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation
Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
PROPRIETARY INERT	5 - 10	15 mg/m^3 TWA dust total 5 mg/m^3 TWA respirable fraction		
PROPRIETARY INERT	5 - 10	Respirable. Listed. Total dust. Listed.		
ZINC OXIDE 1314-13-2	1 - 5	15 mg/m^3 TWA dust total 5 mg/m^3 TWA fume 5 mg/m^3 TWA respirable fraction		
STODDARD SOLVENT 8052-41-3	1 - 5	2900 mg/m^3 TWA 500 ppm TWA		
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5	3.5 mg/m^3 TWA		

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
TOLUENE 108-88-3	1 - 5	200 ppm TWA	= 300 ppm Ceiling	

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
PROPRIETARY INERT	5 - 10	10 mg/m^3 Inhalable particles. 3 mg/m^3 Respirable particles.			
PROPRIETARY INERT	5 - 10	2 mg/m^3 TWA particulate matter containing no asbestos and <1% crystalline silica, respirable fraction			
ZINC OXIDE 1314-13-2	1 - 5	2 mg/m^3 TWA respirable fraction	10 mg/m^3 STEL respirable fraction		
STODDARD SOLVENT 8052-41-3	1 - 5	100 ppm TWA			
PROPYLENE GLYCOL MONO METHYL ETHER 107-98-2	1 - 5	100 ppm TWA	150 ppm STEL		
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5	3.5 mg/m^3 TWA			
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY 64742-82-1	1 - 5	100 ppm			
TOLUENE 108-88-3	1 - 5	20 ppm TWA			Can be absorbed through the skin.

9. PHYSICAL PROPERTIES

Odor:	Normal for this product type.
Physical State:	liquid
pH:	not determined
Vapor pressure:	103 mmHg @ 100ºF (37.78ºC)
Vapor density (air = 1.0):	5.5
Boiling point:	230.72ºF (110ºC)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	8.22
Specific Gravity:	.98
Evaporation rate (butyl acetate = 1.0):	2.24
Flash point (Fahrenheit):	67
Flash point (Celsius):	19
Lower explosive limit (%):	1
Upper explosive limit (%):	7
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Silicon dioxide. Carbon monoxide and carbon dioxide.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
NAPHTHA 64742-88-7	20 - 25	= 3000 mg/kg Dermal LD50 Rabbit > 5.28 mg/L Inhalation LC50 Rat 4 h > 5000 mg/kg Oral LD50 Rat
NAPHTHA 64742-89-8	15 - 20	= 3000 mg/kg Dermal LD50 Rabbit = 5000 mg/kg Oral LD50 Mouse
ETHYL 3-ETHOXYPROPIONATE 763-69-9	1 - 5	= 10 mL/kg Dermal LD50 Rabbit = 3200 mg/kg Oral LD50 Rat
ZINC OXIDE 1314-13-2	1 - 5	> 5000 mg/kg Oral LD50 Rat
PROPYLENE GLYCOL MONO METHYL ETHER 107-98-2	1 - 5	= 13000 mg/kg Dermal LD50 Rabbit = 5200 mg/kg Oral LD50 Rat = 54.6 mg/L Inhalation LC50 Rat 4 h > 24 mg/L Inhalation LC50 Rat 1 h
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5	> 15400 mg/kg Oral LD50 Rat > 3 g/kg Dermal LD50 Rabbit
MINERAL SPIRITS 64742-47-8	1 - 5	> 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h > 5000 mg/kg Oral LD50 Rat
NAPHTHA 64742-48-9	1 - 5	> 3160 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY 64742-82-1	1 - 5	> 3160 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat
TOLUENE 108-88-3	1 - 5	= 12.5 mg/L Inhalation LC50 Rat 4 h = 12124 mg/kg Dermal LD50 Rat = 636 mg/kg Oral LD50 Rat = 8390 mg/kg Dermal LD50 Rabbit > 26700 ppm Inhalation LC50 Rat 1 h

Mutagens/Teratogens/Carcinogens:

May cause birth defects. Female reproductive toxin.

Possible cancer hazard. Contains material which may cause cancer based on animal data.

IARC has classified carbon black as possibly carcinogenic to humans (Group 2B).

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Developmental Toxicity	California Prop 65 - Reproductive (Male)
TOLUENE 108-88-3	1 - 5	Listed. initial date 1/1/91 - developmental toxicity	

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
TOLUENE 108-88-3	1 - 5	Listed. Initial date 8/1/09 - female reproductive toxicity	

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5			Monograph 65 [1996]

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
C.I. PIGMENT BLACK 7 1333-86-4	1 - 5	Present		

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation

UN ID Number (msds):	UN1263
Proper Shipping Name:	PAINT
Hazard Class:	3
Packing Group:	II

U.S Hazmat and/or International DG shipment exceptions
The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Reportable Quantity Description:

International Air Transport Association (IATA):

UN/ID No:	UN1263
Proper shipping name:	Paint
Hazard Class:	3
Packing Group:	II

International Maritime Organization (IMO):

UN/ID No:	UN1263
Proper shipping name:	PAINT
Hazard Class:	3
Packing Group:	II
Marine Pollutant	YES
Marine Pollutant Ingredient 1	ZINC OXIDE
Marine Pollutant Ingredient 2	NAPHTHA

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

Ingredient Name CAS-No.	Approx. Weight %	SARA 302	SARA 313	CERCLA RQ in lbs.
ZINC OXIDE 1314-13-2	1 - 5		YES	
TOLUENE 108-88-3	1 - 5		form R reporting required for 1.0% de minimis concentration	1000

SARA 311/312 Hazard Class:

Acute:	yes
Chronic:	yes
Flammability:	yes
Reactivity:	no
Sudden Pressure:	no

U.S. STATE REGULATIONS:

Right to Know:
The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

Pennsylvania Right To Know:

ZINC OXIDE 1314-13-2
PROPYLENE GLYCOL MONO METHYL ETHER 107-98-2
NAPHTHA 64742-89-8
MINERAL SPIRITS 64742-47-8
NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY 64742-82-1
NAPHTHA 64742-48-9
STODDARD SOLVENT 8052-41-3
C.I. PIGMENT BLACK 7 1333-86-4
NAPHTHA 64742-88-7
TOLUENE 108-88-3
ETHYL 3-ETHOXYPROPIONATE 763-69-9
PROPRIETARY INERT Trade Secret
PROPRIETARY INERT Trade Secret

Additional Non-Hazardous Materials

PROPRIETARY RESIN Trade Secret
PROPRIETARY RESIN Trade Secret

California Proposition 65:
WARNING: This product contains chemicals known to the State of California to cause birth defects or other reproductive harm.

Rule 66 status of product Not photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

US TSCA Inventory:
All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:
All components of this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMIS Codes

Health:	2*
Flammability:	3
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By:	Regulatory Affairs Department
Print date:	17/Jan/2014
Revision Date:	17/Jan/2014

SAFETY DATA SHEET

Revision date 31-Dec-2015 **Version** 4

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 4C-4198

Product Name CAT BLACK PAINT MEDIUM GLOSS AEROSOL 12UC

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Aerosol, Paint

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable aerosols	Category 2
Gases under pressure	Liquefied gas

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Flammable aerosol
Contains gas under pressure; may explode if heated
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 122 °F (50 °C).

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Propellant is classified as a simple asphyxiant if released in large quantities: May displace oxygen and cause rapid suffocation.

OTHER HAZARDS
Causes mild skin irritation. Harmful to aquatic life with long lasting effects. Harmful to aquatic life. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%

Acetone	67-64-1	25 - 50
Solvent naphtha, petroleum, medium aliphatic	64742-88-7	5 - 10
Solvent naphtha, petroleum, light aliphatic	64742-89-8	5 - 10
Carbon black	1333-86-4	0.3 - 1
Toluene	108-88-3	0.3 - 1
2-Butanone, oxime	96-29-7	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Incompatible materials
Strong oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m^3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m^3
Carbon black 1333-86-4	TWA: 3 mg/m^3 inhalable fraction	TWA: 3.5 mg/m^3	IDLH: 1750 mg/m^3 TWA: 3.5 mg/m^3 TWA: 0.1 mg/m^3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aerosol
Appearance	No information available
Odor	Solvent
Color	black
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	-73 °C / -99 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	6.32
specific gravity	.76
Solubility(ies)	Not Determined
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	20 mm2 per second
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Causes serious eye irritation
Skin Contact
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone 67-64-1	-	-	= 50100 mg/m³ (Rat) 8 h
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Carbon black 1333-86-4	-	-	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h

Numerical measures of toxicity - Product Information

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity
According to IARC, Volume 93, no significant exposure to primary particles of carbon black is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Carbon black 1333-86-4	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation	Not applicable
Serious eye damage/eye irritation	Causes serious eye irritation
Skin sensitization	May cause an allergic skin reaction
Respiratory sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Suspected of causing cancer
Reproductive Toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

Environmental precautions — Prevent product from entering drains.

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects — No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes — Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging — Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	ORM-D	UN1950	UN1950
14.2 Proper shipping name	CONSUMER COMMODITY	Aerosols, flammable	Aerosols, flammable
14.3 Hazard Class		2.1	2.1
14.4 Packing Group			

14.5 Environmental hazard Not applicable

14.6 Special Provisions

Emergency Response Guide Number	EmS-No
126	F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code — No information available

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing.

DSL - Canadian Domestic Substances List — All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Toluene 108-88-3 0.3 - 1	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	Yes
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetone 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

Rule 66 status of product
Not photochemically reactive.

California Proposition 65
WARNING! This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information
EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Acetone 67-64-1
Propane 74-98-6
Butane 106-97-8
Solvent naphtha, petroleum, medium aliphatic 64742-88-7
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Limestone 1317-65-3
Proprietary Inert

Toluene 108-88-3
2-Butanone, oxime 96-29-7

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal
Repeated or prolonged overexposure to solvents may cause permanent damage to the nervous system

Section 16: OTHER INFORMATION

HMIS

Health hazards	3*
** = Chronic Health Hazard*	
Flammability	4
Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By Product Stewardship

Revision date 31-Dec-2015
Revision Note No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 15-Apr-2015 **Version** 3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 4C-4198

Product Name CAT BLACK PAINT MEDIUM GLOSS AEROSOL 12UC

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Aerosol, Paint

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable aerosols	Category 2
Gases under pressure	Liquefied gas

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Flammable aerosol
Contains gas under pressure; may explode if heated
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 122 °F (50 °C).

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Propellant is classified as a simple asphyxiant if released in large quantities: May displace oxygen and cause rapid suffocation.

OTHER HAZARDS
Causes mild skin irritation. Harmful to aquatic life with long lasting effects. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%

Acetone	67-64-1	25 - 50
Solvent naphtha, petroleum, medium aliphatic	64742-88-7	5 - 10
Solvent naphtha, petroleum, light aliphatic	64742-89-8	5 - 10
Carbon black	1333-86-4	0.3 - 1
Toluene	108-88-3	0.3 - 1
2-Butanone, oxime	96-29-7	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Incompatible materials
Strong oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m^3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m^3
Carbon black 1333-86-4	TWA: 3 mg/m^3 inhalable fraction	TWA: 3.5 mg/m^3	IDLH: 1750 mg/m^3 TWA: 3.5 mg/m^3 TWA: 0.1 mg/m^3 Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aerosol
Appearance	No information available
Odor	Solvent
Color	black
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	-73 °C / -99 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	6.32
specific gravity	.76
Solubility(ies)	Not Determined
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	20 mm2 per second
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Causes serious eye irritation
Skin Contact
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone 67-64-1	-	-	= 50100 mg/m³ (Rat) 8 h
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Carbon black 1333-86-4	-	-	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h

Numerical measures of toxicity - Product Information

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity
According to IARC, Volume 93, no significant exposure to primary particles of carbon black is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Carbon black 1333-86-4	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation	Not applicable
Serious eye damage/eye irritation	Causes serious eye irritation
Skin sensitization	May cause an allergic skin reaction
Respiratory sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Suspected of causing cancer
Reproductive Toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

Environmental precautions — Prevent product from entering drains.

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects — No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes — Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging — Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	ORM-D	UN1950	UN1950
14.2 Proper shipping name	CONSUMER COMMODITY	Aerosols	Aerosols
14.3 Hazard Class		2.1	2.1
14.4 Packing Group			

14.5 Environmental hazard Not applicable

14.6 Special Provisions

Emergency Response Guide Number	EmS-No
126	F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code — No information available

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing

DSL - Canadian Domestic Substances List — All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Toluene 108-88-3 0.3 - 1	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	Yes
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetone 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

Rule 66 status of product
Not photochemically reactive.

California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information
EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Acetone 67-64-1
Propane 74-98-6
Butane 106-97-8
Solvent naphtha, petroleum, medium aliphatic 64742-88-7
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Limestone 1317-65-3
Proprietary Inert

Toluene 108-88-3
2-Butanone, oxime 96-29-7

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal
Repeated or prolonged overexposure to solvents may cause permanent damage to the nervous system

Section 16: OTHER INFORMATION

HMIS

Health hazards	3*
** = Chronic Health Hazard*	
Flammability	4
Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By Product Stewardship

Revision date 15-Apr-2015
Revision Note No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

Material Safety Data Sheet

CAT CAMSHAFT & FOLLOWER LUBRICANT

1. Product and company identification

Material uses : Industrial applications: Lubricants; oil

Manufacturer : Chemtool Incorporated
801 West Rockton Road
Rockton, IL 61072 U.S.A.
Tel: 815.957.4140
Fax: 815.624.0292

Product code : 8435000000

MSDS # : 1301

Validation date : 6/24/2014.

In case of emergency : INFOTRAC
U.S. and Canada - 800.535.5053
Outside the U.S. and Canada - +1 352.323.3500

2. Hazards identification

Emergency overview

Physical state : Liquid [Clear.]

Color : Green. [Dark]

Odor : Mild. Petroleum oil

Hazard statements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Precautionary measures : Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

2. Hazards identification

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Residual oils (petroleum), solvent-dewaxed	64742-62-7	40-60
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	7-13
Mineral Oil	mixture	1-5

Canada

Name	CAS number	%
Residual oils (petroleum), solvent-dewaxed	64742-62-7	40-60
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	7-13
Mineral Oil	mixture	1-5

Mexico

					Classification			
Name	**CAS number**	**UN number**	**%**	**IDLH**	**H**	**F**	**R**	**Special**
Residual oils (petroleum), solvent-dewaxed	64742-62-7	Not available.	40-60	2500 mg/m³	1	1	0	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	Not available.	7-13	2500 mg/m³	1	1	0	-
Mineral Oil	mixture	Not available.	1-5	2500 mg/m³	1	1	0	-

3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Residual oils (petroleum), solvent-dewaxed	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
Mineral Oil	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist

8. Exposure controls/personal protection

	OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours.

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	**List name**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**Notations**
Residual oils (petroleum), solvent-dewaxed	US ACGIH 6/2013	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]
Distillates (petroleum), solvent-dewaxed heavy paraffinic	US ACGIH 6/2013	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]
Mineral Oil	US ACGIH 6/2013	-	5	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[c]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]

Form: [a]Inhalable fraction [b]Mist [c]mist

Mexico

Occupational exposure limits

Ingredient	Exposure limits
Residual oils (petroleum), solvent-dewaxed	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. Form: mist LMPE-CT: 10 mg/m³ 15 minutes. Form: mist
Distillates (petroleum), solvent-dewaxed heavy paraffinic	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. Form: mist LMPE-CT: 10 mg/m³ 15 minutes. Form: mist
Mineral Oil	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. Form: mist LMPE-CT: 10 mg/m³ 15 minutes. Form: mist

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8. Exposure controls/personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid [Clear.]

Flash point : Closed cup: 165.6°C (330.1°F) [Pensky-Martens.]

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Green. [Dark]

Odor : Mild. Petroleum oil

pH : Not applicable.

Boiling/condensation point : Not available.

Melting/freezing point : Not available.

Density : 0.9 to 0.93 g/cm^3

Vapor pressure : Not available.

Vapor density : Not available.

Volatility : Not available.

Evaporation rate : Not available.

Viscosity : Not available.

Dispersibility properties : Not available.

Solubility : Insoluble in the following materials: cold water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Mineral Oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

11. Toxicological information

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Mineral Oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Mexico

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Mineral Oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

11. Toxicological information

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

12. Ecological information

Ecotoxicity : Not readily biodegradable.

United States

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

Canada

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

Mexico

Aquatic ecotoxicity

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

12. Ecological information

Conclusion/Summary : Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Target organ effects

U.S. Federal regulations : **TSCA 8(a) PAIR**: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312 Hazards identification: Delayed (chronic) health hazard

Validated on 6/24/2014. ***10/13***

15. Regulatory information

Clean Water Act (CWA) 307: Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	10-20
Supplier notification	:	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	10-20

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Connecticut Carcinogen Reporting : None of the components are listed.

Connecticut Hazardous Material Survey : None of the components are listed.

Florida substances : None of the components are listed.

Illinois Chemical Safety Act : None of the components are listed.

Illinois Toxic Substances Disclosure to Employee Act : None of the components are listed.

Louisiana Reporting : None of the components are listed.

Louisiana Spill : None of the components are listed.

Massachusetts Spill : None of the components are listed.

Massachusetts Substances : None of the components are listed.

Michigan Critical Material : None of the components are listed.

Minnesota Hazardous Substances : None of the components are listed.

New Jersey Spill : None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act : None of the components are listed.

New Jersey Hazardous Substances : The following components are listed: ZINC compounds

New York Acutely Hazardous Substances : None of the components are listed.

New York Toxic Chemical Release Reporting : None of the components are listed.

Pennsylvania RTK Hazardous Substances : The following components are listed: ZINC COMPOUNDS

Rhode Island Hazardous Substances : None of the components are listed.

California Prop. 65

15. Regulatory information

None of the components are listed.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : The following components are listed: Zinc (and its compounds)

CEPA Toxic substances : None of the components are listed.

Canada inventory; DSL/ NDSL : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.
Europe inventory : All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.) :

Validated on 6/24/2014. ***12/13***

16. Other information

Physical hazards	0
	B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Date of issue : 6/24/2014.

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Version : 1.03

Prepared by : Regulatory Department, Chemtool Inc.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

CHEMTOOL INCORPORATED

MATERIAL SAFETY DATA SHEET
CAT THREAD LOCK-HIGH STRENGTH

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME	CAT THREAD LOCK-HIGH STRENGTH
PART No.	Chemtool, 8426200000, 8426500000, Caterpillar, 155-0695, 154-9731
SUPPLIER	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 USA Tel: (815) 459-1250 Fax: (815) 459-1955
EMERGENCY TELEPHONE	Rocky Mountain Poison Center Denver, Colorado In USA and Canada - (800) 458-5924 Outside USA and Canada - +01-303-893-1322

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
*POLYGLYCOL DIMETHYLACRYLATE	Proprietary	50-70

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

COMPOSITION COMMENTS	Refer to section eight for exposure limits on ingredients. Chemical ingredients not regulated by OSHA or SARA are treated confidentially.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Irritating to eyes and skin.

SENSITIZATION	No known information.
CARCINOGENICITY	OSHA: Not regulated. NTP: Not listed. IARC: Not listed as a Group 1, 2A, or 2B agent.
TERATOGENICITY	No known information.
HEALTH WARNINGS	INHALATION. Can irritate airways and lungs. EYE CONTACT. Irritating. INGESTION.

	Can cause discomfort. SKIN CONTACT. Irritating. Should be avoided by persons with sensitive or damaged skin.
ROUTE OF ENTRY	Skin and/or eye contact. Ingestion. Inhalation.

4. FIRST AID MEASURES

INHALATION	Remove victim immediately from source of exposure. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.
EYES	Important! Immediately rinse with water for at least 15 minutes. Get medical attention if any discomfort continues.
SKIN	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
INGESTION	DO NOT induce vomiting. Get medical attention immediately. Do not give victim anything to drink if he is unconscious.

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)	96 (205 F) TCC (Tag closed cup).
FLAMMABILITY LIMIT - LOWER(%)	N/D
FLAMMABILITY LIMIT - UPPER(%)	N/D
EXTINGUISHING MEDIA	Use: Carbon dioxide (CO_2). Foam. Dry chemicals.
SPECIAL FIRE FIGHTING PROCEDURES	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-o water out of sewers and water sources. Dike for water control.
HAZARDOUS COMBUSTION PRODUCTS	Irritating gases/vapors/fumes. Oxides of: Carbon. Nitrogen.

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES	Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS	Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Containers to be kept tightly closed. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.
STORAGE PRECAUTIONS	Keep away from heat, sparks and open flame. Store separated from: Oxidizing materials. Reducing materials.

STORAGE CRITERIA Chemical storage.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

PROTECTIVE EQUIPMENT

ENGINEERING CONTROLS	Use engineering controls to reduce air contamination to permissible exposure level.
VENTILATION	No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.
RESPIRATORS	No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.
PROTECTIVE GLOVES	For prolonged or repeated skin contact use suitable protective gloves.
EYE PROTECTION	Wear splash-proof eye goggles to prevent any possibility of eye contact.
PROTECTIVE CLOTHING	Wear appropriate clothing to prevent repeated or prolonged skin contact.
HYGIENIC WORK PRACTICES	Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE	Liquid.		
COLOR	Red.		
ODOR	Mild (or faint).		
SOLUBILITY DESCRIPTION	Slightly soluble in water.		
BOILING POINT (°C, range)	> 149 (300 F)	**Pressure**	760mmHg
SPECIFIC GRAVITY	1.1		
VAPOR DENSITY (air=1)	> 1		
VAPOR PRESSURE	< 5 mmHg	**Temperature (°C)**	25 (77°F)
EVAPORATION RATE	< 1	**Reference**	BuAc=1

10. STABILITY AND REACTIVITY

STABILITY Normally stable.

CONDITIONS TO AVOID	Avoid contact with acids and oxidizing substances.
HAZARDOUS POLYMERIZATION	Will not polymerize.
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of: Carbon. Nitrogen.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION	No experimental toxicological data on the preparation as such is available.
TOXIC DOSE - LD 50	N/A.
TOXIC CONC. - LC 50	N/A.

COMPONENT	**POLYGLYCOL DIMETHYLACRYLATE**
TOXICOLOGICAL DATA	Irritating effects. WHMIS: D2B
TOXIC DOSE - LD 50	> 10000 est. mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN	> 5000 est. mg/kg (skn rbt)
TOXIC CONC. - LC 50	N/A.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION	No data on possible environmental effects have been found.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT HAZARD CLASS	Not regulated.
TDGR CLASS	Not Regulated. Non réglementé.
SEA TRANSPORT NOTES	Not regulated per IMDG.
AIR TRANSPORT NOTES	Not regulated per IATA.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
POLYGLYCOL DIMETHYLACRYLATE	No	No	No

CLEAN AIR ACT

***SARA HAZARD CATEGORIES** Acute

US STATE REGULATIONS

***STATE REGULATORY STATUS** CALIFORNIA PROPOSITION 65: This product may contain the following chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required:
Trace amounts of:
Ethylene oxide, cancer hazard, CAS # 75-21-8

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

LABEL(S) FOR SUPPLY

CONTROLLED PRODUCT CLASSIFICATION D2B - Chronic Toxic Material

Risk phrases R-36/38 Irritating to eyes and skin.

Safety phrases S-24/25 Avoid contact with skin and eyes.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

GLOBAL INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
POLYGLYCOL DIMETHYLACRYLATE	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes

CANADA CEPA: All components of this product comply with new substance notification requirements under the Canadian Environmental Protection Act (CEPA).

16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

HEALTH	Irritation, minor residual injury (1) - HMIS/NFPA
FLAMMABILITY	Burns only if pre-heated (1) - HMIS/NFPA
REACTIVITY	Normally Stable (0) - HMIS/NFPA
PERSONAL PROTECTION INDEX	B - Safety Eyewear and Gloves
REVISION COMMENTS	* Information revised since previous MSDS version.
PREPARED BY	James McBriarty
***Replacement MSDS of**	2008-10-06
***DATE**	2008-11-06
PRINTING DATE:	2008-11-06
DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.

*** Information revised since previous MSDS version**

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **CAT TRANSMISSION AND DRIVE TRAIN OIL (TDTO) 30**
Product Description: Base Oil and Additives
Product Code: 20202050B050, 564666-00, 971420
Intended Use: Manual transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX. 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
CALCIUM SULFONATE		0.1 - < 1%	H317
TETRAPROPENYL PHENOL	121158-58-5	0.1 - < 1%	H315, H361(F), H400(M factor 1), H410(M factor 1)
ZINC ARYLDITHIOPHOSPHATE	98073-07-5	1 - < 5%	H320(2B), H402, H412

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Incomplete combustion products, Aldehydes, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >218°C (424°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of

respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.893
Flammability (Solid, Gas): N/A
Flash Point [Method]: >218°C (424°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa

Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 100 cSt (100 mm2/sec) at 40 °C | 11.2 cSt (11.2 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for	Not expected to be a skin sensitizer. Based on assessment of the

material.	components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components or similar formulations.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Tetrapropenyl phenol (TPP). TPP was tested in a rat oral gavage one-generation reproductive toxicity study and a rat dietary two-generation reproductive toxicity study. Results from the one-generation study included reduced ovary weights and changes in male reproductive accessory organs. Results from the two-generation study included prolonged estrous cyclicity, reduced ovary weights, accelerated sexual maturation, decreased mean live litter size, decreased fertility rates, hypospermia, and reduced weights of male reproductive accessory organs. A Specific Concentration Limit (SCL) for reproductive effects of 1.5 wt% TPP was derived by the supplier based on the NOAEL (15 mg/kg/day) from the rat dietary two-generation study and was confirmed in supporting studies with other substances containing TPP as an impurity.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

NOTE: One or more components of this material contain an impurity (branched alkylphenol) that is highly toxic to aquatic organisms. The components containing the impurity were tested by the supplier and found to be no more than minimally toxic to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ZINC ARYLDITHIOPHOSPHATE	98073-07-5	13, 15, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Updates made in accordance with implementation of GHS requirements.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2006430XUS (548859)

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **CAT TRANSMISSION AND DRIVE TRAIN OIL (TDTO) 30**
Product Description: Base Oil and Additives
Product Code: 20202050B050, 564666-00, 971420
Intended Use: Manual transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1900.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS
No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert

advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
CALCIUM SULFONATE		0.1 - < 1%	H317
TETRAPROPENYL PHENOL	121158-58-5	0.1 - < 1%	H315, H361(F), H400(M factor 1), H410(M factor 1)
ZINC ARYLDITHIOPHOSPHATE	98073-07-5	1 - < 5%	H320(2B), H402, H412

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Incomplete combustion products, Aldehydes, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >218°C (424°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection,

use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.893
Flammability (Solid, Gas): N/A
Flash Point [Method]: >218°C (424°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D

Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 100 cSt (100 mm2/sec) at 40 °C | 11.2 cSt (11.2 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	

Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.
Tetrapropenyl phenol (TPP). TPP was tested in a rat oral gavage one-generation reproductive toxicity study and a rat dietary two-generation reproductive toxicity study. Results from the one-generation study included reduced ovary weights and changes in male reproductive accessory organs. Results from the two-generation study included prolonged estrous cyclicity, reduced ovary weights, accelerated sexual maturation, decreased mean live litter size, decreased fertility rates, hypospermia, and reduced weights of male reproductive accessory organs. A Specific Concentration Limit (SCL) for reproductive effects of 1.5 wt% TPP was derived by the supplier based on the NOAEL (15 mg/kg/day) from the rat dietary two-generation study and was confirmed in supporting studies with other substances containing TPP as an impurity.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

NOTE: One or more components of this material contain an impurity (branched alkylphenol) that is highly toxic to aquatic organisms. The components containing the impurity were tested by the supplier and found to be no more than minimally toxic to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ZINC ARYLDITHIOPHOSPHATE	98073-07-5	13, 15, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Updates made in accordance with implementation of GHS requirements.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2006430XUS (548859)

SAFETY DATA SHEET

Revision date 27-Jul-2016 **Version** 7 **Supersedes Date:** 13-Jun-2016

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 082.04C4200.076

Product Name CAT YELLOW PAINT AEROSOL HG 12U

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Aerosol, Paint

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable aerosols	Category 2
Gases under pressure	Liquefied gas

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Flammable aerosol
Contains gas under pressure; may explode if heated
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 122 °F (50 °C).

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Propellant is classified as a simple asphyxiant if released in large quantities: May displace oxygen and cause rapid suffocation.

OTHER HAZARDS
spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%
Acetone	67-64-1	25 - 50
Solvent naphtha, petroleum, medium aliphatic	64742-88-7	10 - 25
Solvent naphtha, petroleum, light aliphatic	64742-89-8	5 - 10
Toluene	108-88-3	1 - 3
Titanium dioxide	13463-67-7	0.3 - 1
2-Butanone, oxime	96-29-7	0.1 - 0.3
Zirconium ethyl hexoate	22464-99-9	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Incompatible materials
Strong oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 500 ppm TWA: 250 ppm	TWA: 1000 ppm TWA: 2400 mg/m^3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m^3

Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust	IDLH: 5000 mg/m³
Zirconium ethyl hexoate 22464-99-9	STEL: 10 mg/m³ Zr TWA: 5 mg/m³ Zr	TWA: 5 mg/m³ Zr	IDLH: 25 mg/m³ Zr TWA: 5 mg/m³ except Zirconium tetrachloride Zr STEL: 10 mg/m³ Zr

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing. Personnel should wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aerosol
Appearance	No information available
Odor	Solvent
Color	yellow
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	-73 °C / -99 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	6.37
specific gravity	.76
Solubility(ies)	Not Determined

Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Causes serious eye irritation
Skin Contact
Causes skin irritation
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m³ (Rat) 8 h
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	1000 - 1800 mg/kg (Rabbit)	> 4800 mg/m³ (Rat) 4 h
Zirconium ethyl hexoate 22464-99-9	-	-	-

Numerical measures of toxicity - Product Information

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity

According to IARC, Volume 93, no significant exposure to primary particles of titanium dioxide is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7		Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Skin sensitization	May cause an allergic skin reaction
Respiratory sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Suspected of causing cancer
Reproductive Toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Environmental precautions — Prevent product from entering drains.

Marine pollutant — This product contains a chemical which is listed as a marine pollutant according to DOT

Persistence and degradability

No information available

Bioaccumulation

No information available

Mobility

No information available

Other adverse effects — No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes — Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging — Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	ORM-D	UN1950	UN1950
14.2 Proper shipping name	CONSUMER COMMODITY	Aerosols, flammable	Aerosols, flammable
14.3 Hazard Class		2.1	2.1
14.4 Packing Group			

14.5 Environmental hazard Not applicable

Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT

14.6 Special Provisions

Emergency Response Guide Number	EmS-No
126	F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

The supplier may apply one of the following exceptions: Combustible Liquid (49 CFR 173.150(f)); Consumer Commodity (49 CFR 173.150(c), ICAO/IATA SP A112); Limited Quantity (49 CFR 173.150(b), ICAO Part 3 Chapter 4, IATA 2.7, IMDG Chapter 3.4); Viscous Liquid (49 CFR 173.121(b), IMDG 2.3.2.2, IATA 3.3.3.1.1, ICAO 3.2.2, ADR 2.2.3.1.5); Does Not Sustain Combustion (49 CFR 173.120(a), IATA 3.3.1.3, ICAO 3.1.3, IMDG 2.3.1.3, ADR 2.2.3.1.1 Note 1); or others as allowed under hazardous materials/dangerous goods regulations.

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing.

DSL - Canadian Domestic Substances List — All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Toluene 108-88-3 1 - 3	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	Yes
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetone 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

Rule 66 status of product

Not photochemically reactive.

California Proposition 65

WARNING! This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information

EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Acetone 67-64-1

Propane 74-98-6
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Solvent naphtha, petroleum, medium aliphatic 64742-88-7
Butane 106-97-8
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Toluene 108-88-3
2-Butanone, oxime 96-29-7
Zirconium ethyl hexoate 22464-99-9

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal
Repeated or prolonged overexposure to solvents may cause permanent damage to the nervous system

Section 16: OTHER INFORMATION

HMIS

Health hazards	3*
** = Chronic Health Hazard*	
Flammability	4
Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By Product Stewardship

Revision date 27-Jul-2016
Revision Note No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 31-Dec-2015 **Version** 5

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 082.04C4200.076

Product Name CAT YELLOW PAINT AEROSOL HG 12U

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Aerosol, Paint

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable aerosols	Category 2
Gases under pressure	Liquefied gas

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Flammable aerosol
Contains gas under pressure; may explode if heated
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

STORAGE
Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 122 °F (50 °C).

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Propellant is classified as a simple asphyxiant if released in large quantities: May displace oxygen and cause rapid suffocation.

OTHER HAZARDS
Harmful to aquatic life with long lasting effects. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%
Acetone	67-64-1	25 - 50
Solvent naphtha, petroleum, medium aliphatic	64742-88-7	10 - 25
Solvent naphtha, petroleum, light aliphatic	64742-89-8	5 - 10
Toluene	108-88-3	1 - 3
Titanium dioxide	13463-67-7	0.3 - 1
2-Butanone, oxime	96-29-7	0.1 - 0.3
Zirconium ethyl hexoate	22464-99-9	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Protect from sunlight. Store in a well-ventilated place.

Incompatible materials
Strong oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m^3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m^3

Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust	IDLH: 5000 mg/m³
Zirconium ethyl hexoate 22464-99-9	STEL: 10 mg/m³ Zr TWA: 5 mg/m³ Zr	TWA: 5 mg/m³ Zr	IDLH: 25 mg/m³ Zr TWA: 5 mg/m³ except Zirconium tetrachloride Zr STEL: 10 mg/m³ Zr

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aerosol
Appearance	No information available
Odor	Solvent
Color	yellow
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	-73 °C / -99 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	6.37
specific gravity	.76
Solubility(ies)	Not Determined

Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Causes serious eye irritation
Skin Contact
Causes skin irritation
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
May cause drowsiness or dizziness

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetone 67-64-1	-	-	= 50100 mg/m³ (Rat) 8 h
Solvent naphtha, petroleum, medium aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h
Zirconium ethyl hexoate 22464-99-9	-	-	-

Numerical measures of toxicity - Product Information

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity
According to IARC, Volume 93, no significant exposure to primary particles of titanium dioxide is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7		Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation	Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Skin sensitization	May cause an allergic skin reaction
Respiratory sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Suspected of causing cancer
Reproductive Toxicity	Suspected of damaging fertility or the unborn child
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure)	Causes damage to organs through prolonged or repeated exposure
Aspiration hazard	Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

Environmental precautions — Prevent product from entering drains.

Marine pollutant — This product contains a chemical which is listed as a marine pollutant according to DOT

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects — No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes — Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging — Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	ORM-D	UN1950	UN1950
14.2 Proper shipping name	CONSUMER COMMODITY	Aerosols, flammable	Aerosols, flammable
14.3 Hazard Class		2.1	2.1
14.4 Packing Group			

14.5 Environmental hazard Not applicable

Marine pollutant This product contains a chemical which is listed as a marine pollutant according to DOT

14.6 Special Provisions

Emergency Response Guide Number	EmS-No
126	F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory — All components are listed or exempt from listing.

DSL - Canadian Domestic Substances List — All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Toluene 108-88-3 1 - 3	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	Yes
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetone 67-64-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

Rule 66 status of product

Not photochemically reactive.

California Proposition 65

WARNING! This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information

EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Acetone 67-64-1
Propane 74-98-6
Proprietary Non-Hazardous Ingredient - Proprietary CAS

Solvent naphtha, petroleum, medium aliphatic 64742-88-7
Butane 106-97-8
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Toluene 108-88-3
2-Butanone, oxime 96-29-7
Zirconium ethyl hexoate 22464-99-9

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal
Repeated or prolonged overexposure to solvents may cause permanent damage to the nervous system

Section 16: OTHER INFORMATION

HMIS

Health hazards	3*
** = Chronic Health Hazard*	
Flammability	4
Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By Product Stewardship

Revision date 31-Dec-2015
Revision Note No information available

Disclaimer

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End of Safety Data Sheet

SAFETY DATA SHEET

Revision date 08-Apr-2015 **Version** 2

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code 4C-4184, 4C-4192, 4C-4207

Product Name CAT YELLOW PAINT HIGH GLOSS FAST DRYING

Other means of identification

No information available

Recommended use of the chemical and restrictions on use

Paint, Coatings

Details of the supplier of the safety data sheet

See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

E-mail address msds@valspar.com

Emergency telephone number

United States of America 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands 1-800-255-3924

Section 2: HAZARDS IDENTIFICATION

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Label elements

Signal word **DANGER**

HAZARD STATEMENTS
Highly flammable liquid and vapor
Harmful if inhaled
Causes skin irritation
May cause an allergic skin reaction
May cause cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways

PREVENTION
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

RESPONSE
IF exposed or concerned: Get medical advice/attention.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin
If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction.

STORAGE
Store locked up. Store in a well-ventilated place. Keep cool.

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
Not applicable.

OTHER HAZARDS
May be harmful in contact with skin. Harmful to aquatic life with long lasting effects. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	weight-%

Xylenes (o-, m-, p- isomers)	1330-20-7	25 - 50
Solvent naphtha, petroleum, light aromatic	64742-95-6	5 - 10
Ethylbenzene	100-41-4	5 - 10
Titanium dioxide	13463-67-7	3 - 5
Benzene, 1,2,4-trimethyl-	95-63-6	3 - 5
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	1 - 3
Solvent naphtha, petroleum, light aliphatic	64742-89-8	1 - 3
Toluene	108-88-3	0.3 - 1
Naphthalene	91-20-3	0.1 - 0.3
Zirconium ethyl hexoate	22464-99-9	0.1 - 0.3
2-Butanone, oxime	96-29-7	0.1 - 0.3
Cumene	98-82-8	0.1 - 0.3
2-Ethylhexanoic acid, manganese salt	15956-58-8	0.1 - 0.3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

First Aid Measures

General advice
IF exposed or concerned: Get medical advice/attention.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
If skin irritation or rash occurs: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact. spontaneously combustible material. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal. Keep product and empty container away from heat and sources of ignition.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Take precautionary measures against static discharges.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Risk of self-ignition of used cleaning rags, paper wipes etc. Contaminated materials should be soaked in water and placed in a closed metal container before disposal.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Keep tightly closed in a dry and cool place.

Incompatible materials
Strong oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH

Xylenes (o-, m-, p- isomers) 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m³	
Ethylbenzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust	IDLH: 5000 mg/m³
Benzene, 1,2,4-trimethyl- 95-63-6	TWA: 25 ppm		TWA: 25 ppm TWA: 125 mg/m³
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m³ STEL: 15 ppm STEL: 75 mg/m³
Zirconium ethyl hexoate 22464-99-9	STEL: 10 mg/m³ Zr TWA: 5 mg/m³ Zr	TWA: 5 mg/m³ Zr	IDLH: 25 mg/m³ Zr TWA: 5 mg/m³ except Zirconium tetrachloride Zr STEL: 10 mg/m³ Zr
Cumene 98-82-8	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m³ S*	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m³
2-Ethylhexanoic acid, manganese salt 15956-58-8		Ceiling: 5 mg/m³ Mn	IDLH: 500 mg/m³ Mn TWA: 1 mg/m³ Mn STEL: 3 mg/m³ Mn

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear anti-static clothing made of natural fiber or of high temperature resistant synthetic fiber. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal Protection
No information available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid

Appearance	No information available
Odor	Solvent
Color	yellow
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	138.3 °C / 281 °F
flash point	11 °C / 52 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	9.24
specific gravity	1.11
Solubility(ies)	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

Other information

Section 10: STABILITY AND REACTIVITY

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization None under normal processing.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Not applicable
Skin Contact
Causes skin irritation
May cause an allergic skin reaction
Ingestion
May be fatal if swallowed and enters airways
Inhalation
Harmful if inhaled

Numerical measures of toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylenes (o-, m-, p- isomers) 1330-20-7	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aromatic 64742-95-6	-	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h

Ethylbenzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Benzene, 1,2,4-trimethyl- 95-63-6	= 3280 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m³ (Rat) 4 h
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m³ (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
Naphthalene 91-20-3	= 1110 mg/kg (Rat)	= 1120 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h
Zirconium ethyl hexoate 22464-99-9	-	-	-
2-Butanone, oxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h
Cumene 98-82-8	= 1400 mg/kg (Rat)	= 12300 µL/kg (Rabbit)	> 3577 ppm (Rat) 6 h
2-Ethylhexanoic acid, manganese salt 15956-58-8	-	-	-

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (dermal) 4013 Mg/kg
ATEmix (inhalation-dust/mist) 4.1 mg/l
ATEmix (inhalation-vapor) 30 mg/l

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity

According to IARC, Volume 93, no significant exposure to primary particles of titanium dioxide is thought to occur from use in paints since the pigment is bound to other materials. According to IARC, Volume 93, no significant exposure to primary particles of carbon black is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethylbenzene 100-41-4	A3	Group 2B		X
Titanium dioxide 13463-67-7		Group 2B		X
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X
Cumene 98-82-8		Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans.
NTP (National Toxicology Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen.
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present.

Skin corrosion/irritation Causes skin irritation
Serious eye damage/eye irritation Not applicable
Skin sensitization May cause an allergic skin reaction
Respiratory sensitization Not applicable
Germ cell mutagenicity Not applicable
Carcinogenicity May cause cancer
Reproductive Toxicity Suspected of damaging fertility or the unborn child

Specific target organ toxicity (single exposure)	Not applicable
Specific target organ toxicity (repeated exposure)	May cause damage to organs through prolonged or repeated exposure
Aspiration hazard	Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

Environmental precautions — Prevent product from entering drains.

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects — No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes — Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging — Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

Section 14: TRANSPORT INFORMATION

	DOT	IMDG	IATA
14.1 UN/ID no	UN1263	UN1263	UN1263
14.2 Proper shipping name	Paint	Paint	Paint
14.3 Hazard Class	3	3	3
14.4 Packing Group	II	II	II
14.5 Environmental hazard	Not applicable		
14.6 Special Provisions	149, B52, IB2, T4, TP1, TP8, TP28	163	A3, A72
	Emergency Response Guide Number 128	**EmS-No** F-E, S-E	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code — No information available

Section 15: REGULATORY INFORMATION

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	All components are listed or exempt from listing
DSL - Canadian Domestic Substances List	All components are listed or exempt from listing

US Federal Regulations

Chemical Name	SARA 313 - Threshold Values %	Hazardous air pollutants (HAPs) content
Xylenes (o-, m-, p- isomers) 1330-20-7 25 - 50	1	Present

Ethylbenzene 100-41-4 5 - 10	0.1	Present
Benzene, 1,2,4-trimethyl- 95-63-6 3 - 5	1	
Toluene 108-88-3 0.3 - 1	1	Present
Naphthalene 91-20-3 0.1 - 0.3	0.1	Present
Cumene 98-82-8 0.1 - 0.3	1	Present
2-Ethylhexanoic acid, manganese salt 15956-58-8 0.1 - 0.3	1	Present

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb			X
Ethylbenzene 100-41-4	1000 lb	X	X	X
Toluene 108-88-3	1000 lb	X	X	X
Naphthalene 91-20-3	100 lb	X	X	X

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethylbenzene 100-41-4	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Toluene 108-88-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Naphthalene 91-20-3	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Cumene 98-82-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

Rule 66 status of product
Photochemically reactive.

California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

U.S. EPA Label information
EPA Pesticide registration number Not applicable

U.S. State Right-to-Know Regulations

Chemical Name
Xylenes (o-, m-, p- isomers) 1330-20-7

Proprietary Non-Hazardous Ingredient - Proprietary CAS
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Solvent naphtha, petroleum, light aromatic 64742-95-6
Ethylbenzene 100-41-4
Titanium dioxide 13463-67-7
Benzene, 1,2,4-trimethyl- 95-63-6
Solvent naphtha, petroleum, heavy aromatic 64742-94-5
Solvent naphtha, petroleum, light aliphatic 64742-89-8
Toluene 108-88-3
Naphthalene 91-20-3
Zirconium ethyl hexoate 22464-99-9
2-Butanone, oxime 96-29-7
Cumene 98-82-8
2-Ethylhexanoic acid, manganese salt 15956-58-8

Section 16: OTHER INFORMATION

HMIS

Health hazards	3*
** = Chronic Health Hazard*	
Flammability	3
Physical hazards	0
Personal Protection	X

Supplier Address
Valspar Coatings
5400 Avenue Of The Cities
Moline, IL 61265
309-762-7546

Prepared By Product Stewardship

Revision date 08-Apr-2015
Revision Note No information available

Disclaimer

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

Safety Data Sheet

Issue date 09-Jun-2015 **Version** 1

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name CHAMPION SPRAYON OVEN CLEANER
Chemical name 7-7603-1

Other means of identification

Product code FG 438-5177-3
Synonyms Oven and grill cleaner

Recommended use of the chemical and restrictions on use

Recommended Use Stoves, ovens and grills.
Uses advised against DO NOT USE ON FLOORS Do not use on tile, plastic, leather, copper, painted and varnished surfaces.

Details of the supplier of the safety data sheet

Supplier Address
Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-273-1121

Manufacturer Address
Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-273-1121

Emergency Telephone Number

Company Phone Number 708-865-1000
24 Hour Emergency Phone Number 1-800-255-3924
Emergency telephone ChemTel 1-800-255-3924

2. Hazards Identification

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 2A
Gases Under Pressure	liquefied gas

Label Elements

EMERGENCY OVERVIEW

DANGER

hazard statements
Causes severe skin burns and eye damage
Causes serious eye irritation
Contains gas under pressure; may explode if heated

Appearance Yellowish, viscous liquid **Physical State** Aerosol **Odor** Strong, characteristic odor

Precautionary Statements - Prevention

Do not breathe fumes, mist, vapors or spray.
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary Statements - Response
Specific measures. See additional cautionary statements on this label.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Store in a well-ventilated place

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• Toxic to aquatic life with long lasting effects
• Toxic to aquatic life
-

3. Composition/information on Ingredients

Common Name	Oven and grill cleaner.
Synonyms	Oven and grill cleaner.
Chemical Family	MIXTURES.
Formula	7-7603-1
Chemical nature	Aqueous alkaline solution.

Chemical name	CAS No	weight-%	Trade secret
Water	7732-18-5	80-85	*
Triethylene Glycol	112-27-6	1-5	*
N-Butane	106-97-8	1-5	*
Sodium hydroxide	1310-73-2	1-5	*
Potassium hydroxide	1310-58-3	1-5	*
Propane	74-98-6	1-5	*

Chemical Additions — Hazardous components according to OSHA, are listed when present at 1% or greater. Carcinoges are listed when present at 0.1% or greater.

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye Contact — Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact — Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advise.

inhalation — If overcome by vapor, move person to fresh air. If person is not breathing, call 911 or an ambulance, then provide artifical respiration, preferably mouth-to-mouth, if possible. Call a

poison control center or doctor for further treatment advise.

INGESTION Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms Acute: Danger - contains sodium hydroxide. Injurious if sprayed on yes. Contact with eyes may result on eye damage. Irritant to skin. Prolonged contact with skin may cause severe burns. Inhalation of vapor or mist may cause headaches, dizziness and nausea. Vapors may irritate the upper-respiratory tract system.

Indication of any immediate medical attention and special treatment needed

Note to physicians None needed.

5. Fire-fighting measures

Suitable extinguishing media
Dry chemical, CO2 or water spray.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
This product is under pressure. Water spray may be used to cool cans in the vicinity of fire or excessive heat to prevent the explosion of the cans.

Hazardous combustion products Thermal decomposition may release carbon monoxide and carbon dioxide.

Explosion data
Sensitivity to Mechanical Impact Contents under pressure, keep away from heat and open flame.
Sensitivity to Static Discharge Keep away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use with adequate general or local exhaust ventilation.

For emergency responders Remove all sources of ignition.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Provide adequate ventilation to area being treated. Soak up spills with chemically inert, absorbent material.

Methods for cleaning up Clean contaminated surface thoroughly.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Avoid contact with skin. Avoid getting spray into eyes. Do not deliberately inhale vapor or mist. Do not contaminate food or food handling surfaces. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry place away from heat and open flame. Keep out of reach of children. **AEROSOL STORAGE LEVEL I (NFPA-30B) .**

Incompatible Materials Avoid heat, open flame and contact with strong oxidizers. Avoid contact with tile, plastic, leather, copper, painted and varnished surfaces.

8. Exposure Controls/Personal Protection

Control parameters

Exposure guidelines See occupational exposure limits listed below.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N-Butane 106-97-8	STEL: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	TWA: 800 ppm TWA: 1900 mg/m³
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³	(vacated) Ceiling: 2 mg/m³	Ceiling: 2 mg/m³
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
Propane 74-98-6	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³

Appropriate engineering controls

Engineering controls Use with adequate general or local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face Protection Conventional eyeglasses to guard against splashing.

Skin and Body Protection Rubber, vinyl or household type gloves required.

Respiratory protection Use in well-ventilated area ONLY. When using indoors, keep windows and doors open until fumes disipate.

General hygiene considerations Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State Aerosol
Appearance Yellowish, viscous liquid
Color light yellow
Odor Strong, characteristic odor
Odor threshold No information available

Property	Values	Remarks • Method
pH	12.9 to 13.5	No information available
Melting point/freezing point	Not applicable	No information available
Boiling point/boiling range	Water 212 °F/100 °C	No information available
Flash Point	Not applicable. This is an aerosol product for which Flame Projection is 0 in. with 0 in flashback. Product was tested for Enclosed Space Ignition Test and is not a flammable aerosol as defined on 29CFR 1910.122 Appendix	No information available

	B.3.	
Evaporation Rate	Faster than butyl acetate	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		No information available
Upper flammability limits	Not available	
Lower Flammability Limit	Not available	
Vapor pressure		No information available
Vapor Density		No information available
Specific gravity	1.056 concentrate	No information available
Water solubility		Soluble in water
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition Temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	7.84%
Density	8.80 lb/gal
Bulk Density	No information available

10. Stability and Reactivity

Reactivity
Not applicable
Not applicable

Chemical stability
Stable.
Possibility of hazardous reactions
Temperatures above 130 °F may cause cans to burst with force.
hazardous polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Temperatures above 122 °F (50 °C).
Incompatible Materials
Avoid heat, open flame and contact with strong oxidizers. Avoid contact with tile, plastic, leather, copper, painted and varnished surfaces.
Hazardous decomposition products
Thermal decomposition may yield gases like carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on likely routes of exposure

Product Information	Danger contains Sodium Hydroxide
inhalation	Vapors may irritate the upper-respiratory tract system. Inhalation of vapor or mist may cause headaches, dizziness and nausea.
Eye Contact	Injurious if sprayed on eyes. Contact with eyes may result on eye damage.
Skin contact	Danger, contains sodium hydroxide. Irritant to skin. Prolonged contact with skin may cause severe burns.
INGESTION	This is an aerosol product, ingestion is unlikely to occur. MAY BE HARMFUL IF

SWALLOWED.

Chemical name	Oral LD50	dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Triethylene Glycol 112-27-6	= 15000 mg/kg (Rat)	> 20 mL/kg (Rabbit)	-
N-Butane 106-97-8	-	-	= 658 g/m³ (Rat) 4 h
Sodium hydroxide 1310-73-2	-	= 1350 mg/kg (Rabbit)	-
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Propane 74-98-6	-	-	= 658 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Vapors may be irritating to eyes, nose, throat, and lungs.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation May cause severe burns after prolonged contact with skin.
Serious eye damage/eye irritation Risk of serious damage to eyes.
corrosivity Contains sodium hydroxide, can be corrosive to skin and eyes.
sensitization No information available.
Germ Cell Mutagenicity No information available.
carcinogenicity Not known chronic effects based on available data. None of the ingredients present in excess of 0.1% are listed as carcinogenic by NTP, IARC or OSHA.

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard Deliberate inhalation of concentrated vapor or mist may cause headache, dizziness and nausea.

Numerical measures of toxicity - Product Information

Unknown acute toxicity -
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 17749 mg/kg
ATEmix (dermal) 46056 mg/kg
ATEmix (inhalation-gas) 8757000 mg/l
ATEmix (inhalation-dust/mist) 46.1 mg/l
ATEmix (inhalation-vapor) 14403 mg/l

12. Ecological Information

This product does not contain marine pollutants.

ecotoxicity

7.79000000000001% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Triethylene Glycol 112-27-6		56200 - 63700: 96 h Pimephales promelas mg/L LC50 flow-through 10000: 96 h Lepomis macrochirus mg/L LC50 static 61000: 96 h Lepomis macrochirus mg/L LC50 flow-through		42426: 48 h Daphnia magna mg/L EC50

Sodium hydroxide 1310-73-2		45.4: 96 h Oncorhynchus mykiss mg/L LC50 static		
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical name	Partition coefficient
Triethylene Glycol 112-27-6	-1.98
N-Butane 106-97-8	2.89
Potassium hydroxide 1310-58-3	0.65 0.83
Propane 74-98-6	2.3

Other adverse effects No information available

13. Disposal Considerations

Waste treatment methods

Disposal of wastes Dispose of in accordance with federal, state and local regulations.

Contaminated packaging Pressurized container: Do not pierce or burn, even after use. Do not puncture or incinerate container. If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions.

Chemical name	California Hazardous Waste Status
Sodium hydroxide 1310-73-2	Toxic Corrosive
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. Transport Information

DOT Limited quantity (LQ) Oven and grill cleaner
UN/ID no UN1950
Proper Shipping Name Limited quantity (LQ)
Hazard Class 2.1
Marine pollutant This product does not contain marine pollutants.

15. Regulatory information

International Inventories
TSCA All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Subtances Control Act (TSCA) Chemical Substance Inventory.

DSL All ingredients are listed or are excluded from listing on the DSL.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

This product does not contain toxic chemicals (above the de minimis level) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb			X
Potassium hydroxide 1310-58-3	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5			X
Triethylene Glycol 112-27-6			X
N-Butane 106-97-8	X	X	X
Sodium hydroxide 1310-73-2	X	X	X
Potassium hydroxide 1310-58-3	X	X	X
Propane 74-98-6	X	X	X

U.S. EPA Label information

EPA Pesticide registration number Not applicable

16. Other information

NFPA	**Health Hazards** 3	**Flammability** 1	**Instability** 1	**Physical and chemical properties** Not applicable
HMIS	**Health Hazards** 3	**Flammability** 2	**Physical Hazards** 1	**Personal Protection** B - Eyes and hands protection

Issue date 09-Jun-2015
Revision note
This SDS supersedes a previous MSDS dated May 05, 2013.
Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Chemetall Oakite

201655

MATERIAL SAFETY DATA SHEET

Approved
2/23/04 LS

PRODUCT CODE: 201655
CHEM COTE 3007
200-332-008

HMIS 3 0 0 J

IRON PHOSPHATE

SECTION I - PRODUCT IDENTIFICATION

Master (CHEMCOTE 3007)
1-Pot In 2003

TRADE NAME	CHEM COTE 3007	**EMERGENCY TELEPHONE NUMBER:** (800) 424-9300 (CHEMTREC)
CHEMICAL NAME AND SYNONYMS	NA-Mixture	
MANUFACTURER'S NAME AND TELEPHONE NO.	OAKITE PRODUCTS INC. (908) 464-6900 (8am-5pm) A Member of The CHEMETALL Group	
ADDRESS	50 Valley Road Berkeley Heights NJ 07922	
DATE OF PREPARATION	07-18-2002	

SECTION II - HAZARDOUS INGREDIENTS

	CAS NO.	% BY WT	ACGIH TLV (TWA)	OSHA PEL (TWA)	UNITS
Phosphoric acid	0007664382	1-10	1	1	
Trade secret registry (735517)	-5097P	1-5	NE	NE	
Linear alcohol alkoxylate	0068987815	1-5	NE	NE	
Trade secret registry (735517)	-5124P	1-5	NE	NE	
Fluoboric Acid (Fluoride as F)	0016872110	1-5	2.5	2.5	ppm
Non-hazardous ingredients		Bal.			

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

All components of this material are on the US TSCA Inventory.

CARCINOGENICITY: No substance in this product is listed by IARC, NTP, or regulated by OSHA as a carcinogen.

SECTION III - PHYSICAL DATA

BOILING POINT (F)	>212	SPECIFIC GRAVITY (H20=1)	1.145
VAPOR PRESSURE (mm Hg)	NE	Bulk Density	9.54 lbs/gal

NA - Not Applicable **NE - Not Established**

VAPOR DENSITY (Air=1)	NE	PERCENT VOLATILE	
SOLUBILITY IN WATER	Complete	BY WEIGHT(%) Excludes H2O	
EVAPORATION RATE (BuAc=1)	<1	PH	
APPEARANCE AND ODOR	Yellow liquid; mild odor.	PH (concentrate)	<2.5

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): NONE
FLAMMABLE LIMITS: LEL: NA UEL: NA

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam, water spray.

SPECIAL FIRE FIGHTING PROCEDURES: Wear Self-Contained Breathing Apparatus (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS: See Section VII.(WHMIS)
See Section VI.(U.S.)

SECTION V - HEALTH HAZARD INFORMATION

ROUTE(S) OF ENTRY:	INHALATION:	SKIN:	INGESTION:
	X	X	X

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.
SYMPTOMS/EFFECTS OF OVEREXPOSURE:
Inhalation of mist may cause severe respiratory irritation. Skin irritation, reddening, burns. BURNING SENSATION MAY BE DELAYED. Eye contact causes severe or permanent damage.

FIRST AID

EYES: Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Get prompt medical attention.

SKIN: Immediately remove contaminated clothing. Wash skin with large amounts of water for at least 15 minutes. Get prompt medical attention. Wash clothing before reuse.

INGESTION: Contact local poison control center or physician IMMEDIATELY!

INHALATION: Move victim to fresh air. Get medical help if irritation persists.

NA - Not Applicable **NE - Not Established**

SECTION VI - REACTIVITY DATA

STABILITY: NORMALLY STABLE

INCOMPATIBLE MATERIALS: Alkalies. Contact with certain metals may yield explosive hydrogen gas. Avoid prolonged contact of concentrate with glass or ceramic.

HAZARDOUS DECOMPOSITION PRODUCTS: Phosphorous oxides, Hydrogen fluoride gas, Fluorine. Sulfur oxides.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURES: Wear personal protective equipment (See Section VIII). Clean up with inert absorbant material. Store in dry container for disposal. Neutralize with soda ash or lime. Flush area with water.

WASTE DISPOSAL METHOD: Dispose of in accordance with Local State and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY: For symptoms of overexposure, wear a NIOSH-approved dust/mist respirator.

EYEWEAR: If splash potential exists wear chemical splash goggles or faceshield.

CLOTHING/GLOVES: Wear chemical-resistant gloves and clothing as needed to prevent skin contact.

VENTILATION: Local exhaust may be necessary for some handling/use conditions. Specific needs should be addressed by supervisory or health/safety personnel.

SECTION IX - SPECIAL PRECAUTIONS

CORROSIVE. Store in closed container in well-ventilated area.

APPROVAL Mgr. Health & Environmental Dept. 07/18/2002

NAME TITLE DATE OF PRINTING

NA - Not Applicable **NE - Not Established**

4321

Material Safety Data Sheet: CHEM-AQUA 999

Supercedes Date 10/26/2012 **Issuing Date** 06/03/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name CHEM-AQUA 999
Recommended use Water treatment chemical
Information on Manufacturer
AQUA TERRA BIOCHEMICAL CORP. OF AMERICA
P.O. BOX 152170
DALLAS, TEXAS 75241

Product Code 0000
Chemical nature Aqueous solution of alkali salts
Emergency Telephone Number
CHEMTREC® 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview
WARNING
Oxidizing agent
Severe skin irritation
Causes severe eye irritation
May be harmful if inhaled
May be harmful if swallowed

Color Colorless - Light yellow **Physical State** Liquid **Odor** Odorless

Potential Health Effects

Principle Route of Exposure	Skin contact, Eye contact, Inhalation.
Primary Routes of Entry	Inhalation, Ingestion.
Acute Effects	
Eyes	Severe irritation. May cause irreversible eye damage.
Skin	Severe irritation.
Inhalation	Causes respiratory tract irritation. Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Blood disorder may occur after prolonged inhalation. Methemoglobinemia.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Toxic if swallowed. Blood disorder may occur after ingestion. Components of the product create formation of methemoglobin.
Chronic Toxicity	Prolonged exposure can be harmful for certain organs, e.g. liver, kidneys, blood, nervous system and skin. Methemoglobinemia. Cyanosis. Experiments have shown reproductive toxicity effects on laboratory animals.
Target Organ Effects	Respiratory system, Skin, Blood, Spleen, Heart, Liver, Kidney, Central nervous system, Testes.
Aggravated Medical Conditions	Skin disorders, Respiratory disorders, Cardiovascular, Kidney disorders, Liver disorders, Neurological disorders, Blood disorders.
Potential Environmental Effects	See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Sodium nitrite	7632-00-0
Sodium metaborate tetrahydrate	10555-76-7

4. FIRST AID MEASURES

General advice	Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, or gas.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Remove immediately all contaminated clothing. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Rinse mouth. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.
Notes to physician	Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures.

5. FIRE-FIGHTING MEASURES

Flash Point Does not flash **Method** Not applicable
Autoignition Temperature No information available.

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

Component Information

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Sodium nitrite	= 85 mg/kg (Rat)	no data available	= 5.5 mg/L (Rat) 4 h	no data available	no data available
Sodium metaborate tetrahydrate	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Sodium nitrite	no data available	no data available	no data available	no data available	liver, kidneys, nervous system, spleen, blood, heart
Sodium metaborate tetrahydrate	no data available	no data available	no data available	X	Testes

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Sodium nitrite	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium metaborate tetrahydrate	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Sodium nitrite	no data available	LC50 = 0.19 mg/L Oncorhynchus mykiss 96 h LC50 0.092 - 0.13 mg/L Oncorhynchus mykiss 96 h LC50 0.4 - 0.6 mg/L Oncorhynchus mykiss 96 h LC50 0.65 - 1 mg/L Oncorhynchus mykiss 96 h LC50 = 2.3 mg/L Pimephales promelas 96 h LC50 = 20 mg/L Pimephales promelas 96 h	no data available	no data available	-3.7
Sodium metaborate tetrahydrate	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.
Container Disposal Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name <400#- NOT REGULATED >399# -UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (SODIUM NITRITE)
UN-No UN3082
Packing Group III
Reportable Quantity (RQ) RQ @ 400lbs
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.,(SODIUM NITRITE), 9,III,RQ

TDG

Proper shipping name <400#- NOT REGULATED >399#- UN3082,ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.,(SODIUM NITRITE)
Hazard Class 9
UN-No UN3082
Packing Group III

Glossary	No information available.
List of References.	No information available.

AQUA TERRA BIOCHEMICAL CORP. OF AMERICA assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 1000 THF

Product Use: Drive Train Fluid
Product Number(s): 226606, 278021
Synonyms: Chevron 1000 THF, Chevron 1000 THF ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain.

Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.
Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid,

and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.88 @ 15°C (59°F)
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Viscosity: 9.10 mm2/s @ 100°C (212°F) Minimum
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) (Min)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: No revision information

Revision Date: January 27, 2017

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet

HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 1000 THF

Product Use: Drive Train Fluid
Product Number(s): 226606, 278021
Synonyms: Chevron 1000 THF ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain.

Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid,

and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.88 @ 15°C (59°F)
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Viscosity: 9.10 mm2/s @ 100°C (212°F) Minimum
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) (Min)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:
SECTION 05 - Physical/Chemical Properties information was modified.
SECTION 07 - Precautionary Measures information was modified.
SECTION 12 - Ecological Information information was added.
SECTION 12 - Ecological Information information was modified.
SECTION 15 - Chemical Inventories information was modified.

Revision Date: September 08, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit

GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 1000 THF

Product Use: Drive Train Fluid
Product Number(s): 226606, 278021
Synonyms: Chevron 1000 THF ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand.

Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.88 @ 15°C (59°F)
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Viscosity: 9.10 mm2/s @ 100°C (212°F) Minimum
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO

5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 3, 8, 9, 15, 16

Revision Date: June 24, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average

STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 1000 THF

Product Use: Drive Train Fluid
Product Number(s): 226606, 278021
Synonyms: Chevron 1000 THF ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

Zinc alkyl dithiophosphate	68649-42-3	0.1 - < 2.5 %wt/wt
01154100-5219P	Trade secret	0.5 - 1.5 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Zinc alkyl dithiophosphate	Not Applicable	--	--	--	--
01154100-5219P	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.88 kg/l @ 15°C (59°F)
Viscosity: 9.1 mm2/s @ 100°C (212°F) (Min)
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: Not Applicable
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) (Min)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe

solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.
Zinc alkyl dithiophosphate 03, 06

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1,16
Revision Date: JANUARY 14, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Chevron Clarity Synthetic Hydraulic Oil AW

Product Number(s): CPS255696

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified Uses: Hydraulic Oil

1.3 Details of the supplier of the safety data sheet
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com
email : lubemsds@chevron.com

1.4 Emergency telephone number
Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
DSD/DPD CLASSIFICATION: Not classified as dangerous according to EU regulatory guidelines.

2.2 Label elements
Under the criteria of Directive 1999/45/EC (dangerous preparations):
Not classified

2.3 Other hazards Not applicable.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Mixtures
This material is a mixture.

COMPONENTS	EC NUMBER	SYMBOL / RISK PHRASES	AMOUNT
Highly refined mineral oil (C15 - C50)	*	None	70 - 99 %weight

*Contains one or more of the following EINECS numbers: 265-090-8, 265-091-3, 265-096-0, 265-097-6, 265-098-1, 265-101-6, 265-155-0, 265-156-6, 265-157-1, 265-158-7, 265-159-2, 265-160-8, 265-161-3, 265-166-0, 265-169-7, 265-176-5, 276-735-8, 276-736-3, 276-737-9, 276-738-4, 278-012-2.

COMPONENTS	CAS NUMBER	EC NUMBER	REGISTRATION NUMBER	CLP CLASSIFICATION	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	*	**	None	70 - 99 %weight

*Contains one or more of the following EINECS numbers: 265-090-8, 265-091-3, 265-096-0, 265-097-6, 265-098-1, 265-101-6, 265-155-0, 265-156-6, 265-157-1, 265-158-7, 265-159-2, 265-160-8, 265-161-3, 265-166-0, 265-169-7, 265-176-5, 276-735-8, 276-736-3, 276-737-9, 276-738-4, 278-012-2.
**Not available or substance is not currently required for registration under REACH.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

4.2 Most important symptoms and effects, both acute and delayed

IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to be harmful. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

4.3 Indication of any immediate medical attention and special treatment needed

Not applicable.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

5.2 Special hazards arising from the substance or mixture
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

5.3 Advice for firefighters
This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Eliminate all sources of ignition in vicinity of spilled material. Refer to Sections 5 and 8 for more information.

6.2 Environmental precautions
Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

6.3 Methods and material for containment and cleaning up
Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil and dispose of in a manner consistent with applicable requirements. Place other contaminated materials in disposable containers and dispose of in a manner consistent with applicable requirements. Report spills to local authorities as appropriate or required.

6.4 Reference to other sections
See sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling
Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not taste or swallow.

7.2 Conditions for safe storage, including any incompatibilities
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

7.3 Specific end use(s): Hydraulic Oil

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

8.1 Control parameters
No applicable occupational exposure limits exist for this material or its components. Consult local authorities for appropriate values.

8.2 Exposure controls
ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

ENVIRONMENTAL EXPOSURE CONTROLS:
See relevant Community environmental protection legislation or the Annex, as applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

9.1 Information on basic physical and chemical properties
Appearance
Color: Colorless
Physical State: Liquid
Odor: Hydrocarbon odor
Odor Threshold: No data available
pH: No data available
Melting Point: No data available
Freezing Point: No data available
Initial Boiling Point: 315°C (599°F) Minimum
Flashpoint: (Cleveland Open Cup) 190 °C (374 °F) Minimum
Evaporation Rate: No data available
Flammability (solid, gas): No Data Available
Flammability (Explosive) Limits (% by volume in air):
Lower: Not Applicable Upper: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)

Vapor Density (Air = 1): >1
Density: No data available
Solubility: Soluble in hydrocarbons; insoluble in water
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No Data Available
Viscosity: 36.4mm2/s @ 40°C (104°F) (Typical)
Explosive Properties: No Data Available
Oxidising properties: No Data Available
9.2 Other Information: No Data Available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity: This material is not expected to react.
10.2 Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
10.3 Possibility of hazardous reactions: Hazardous polymerization will not occur.
10.4 Conditions to Avoid: Not applicable
10.5 Incompatible materials to avoid: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
10.6 Hazardous decomposition products: None known (None expected)

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: The hazard evaluation is based on data for components or a similar material.
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
In accordance with the Directive 94/69/EC (21st ATP to DSD), Nota L, reference IP 346/92: "DMSO Extraction Method", we have determined that the base oils used in this preparation are not carcinogenic.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity
This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

12.2 Persistence and degradability
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

12.3 Bioaccumulative potential
Bioconcentration Factor: No Data Available
Octanol/Water Partition Coefficient: No data available

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
This product is not, or does not contain, a substance that is a potential PBT or a vPvB.

12.6 Other adverse effects
No other adverse effects identified.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.
In accordance with European Waste Catalogue (E.W.C.) the codification is the following: 13-02

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

ADR/RID

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable

ICAO

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable

14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable

IMO

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REGULATORY LISTS SEARCHED:
01=EU. Directive 76/769/EEC: Restrictions on the marketing and use of certain dangerous substances.
02=EU Directive 90/394/EEC: Carcinogens at work.
03=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.
04=EU Directive 96/82/EC (Seveso II): Article 9.
05=EU Directive 96/82/EC (Seveso II): Articles 6 and 7.
06=EU Directive 98/24/EC: Chemical agents at work.
07=EU Directive 2004/37/EC: On the protection of workers.
08=EU Regulation EC No. 689/2008: Annex 1, Part 1.
09=EU Regulation EC No. 689/2008: Annex 1, Part 2.
10=EU Regulation EC No. 689/2008: Annex 1, Part 3.
11=EU Regulation EC No. 850/2004: Prohibiting and restricting persistant organic pollutants (POPs).
12=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.
13=EU REACH, Annex XIV: Candidate List of Substances of Very High Concern for Authorization (SVHC).

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

15.2 Chemical safety assessment
No chemical safety assessment.

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: FEBRUARY 01, 2013

Full text of R-phrases:
None
Full text of CLP H-statements:
None

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
CVX - Chevron	CAS - Chemical Abstract Service Number
NQ - Not Quantifiable	

Prepared according to the criteria of EU Regulation 1907/2006 by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Drive Train Fluid HD SAE 10W, 30, 50, 60

Product Use: Drive Train Fluid
Product Number(s): 226601, 226607, 226608, 226610, 254602, 254603, 254604
Synonyms: Chevron Drive Train Fluid, HD 10W, 30, 60 ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt
Zinc alkyl dithiophosphate	68649-42-3	0.5 - < 2.5 %wt/wt
Branched alkylphenol and Calcium branched alkylphenol	74499-35-7 & 132752-19-3	0.1 - 1 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select

protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Zinc alkyl dithiophosphate	Not Applicable	--	--	--	--
Branched alkylphenol and Calcium branched alkylphenol	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Varies depending on specification
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.88 - 0.91 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.87 - 0.89 kg/l @ 15°C (59°F)
Viscosity: 6 - 26 mm2/s @ 100°C (212°F)
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available
Flashpoint: (Cleveland Open Cup) 190 °C (374 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: This material is not expected to react.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: The hazard evaluation is based on data for components or a similar material.
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.
This material contains one or more components that have a branched alkylphenol impurity that is highly toxic to aquatic organisms (disclosed in Section 3). The components containing the impurity have been tested and are not toxic to aquatic organisms. Therefore the data in Section 3 for the alkylphenol impurity should not be used to classify the product for aquatic toxicity.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.
Zinc alkyl dithiophosphate 03, 06

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1,16
Revision Date: AUGUST 27, 2014

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Handy Oil ISO 15

Product Use: Industrial Oil
Product Number(s): CPS226807
Company Identification
ChevronTexaco Global Lubricants
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevron-lubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevrontexaco.com
Product Information: (800) LUBE TEK
MSDS Requests: (800) 414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	90 - 100 %weight

SECTION 3 HAZARDS IDENTIFICATION

****
EMERGENCY OVERVIEW

- HARMFUL OR FATAL IF SWALLOWED - MAY CAUSE LUNG DAMAGE IF SWALLOWED
****

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.
Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 150 °C (302 °F) (Min)
Autoignition: No Data Available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not taste or swallow. Keep out of the reach of children.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <1 mmHg @ 20 °C (68 °F)
Vapor Density (Air = 1): >1
Boiling Point: >260°C (500°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.87 @ 15.6°C (60.1°F) / 15.6°C (60.1°F) (Typical)
Viscosity: 13.5 cSt @ 40°C (104°F) (Min)
Evaporation Rate: No Data Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: No product toxicology data available.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE
This material is not expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR
Additional Information:NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: 1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Lubricating oil)

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 2

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: 02/15/2005

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet

CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Supreme Motor Oil SAE 5W-20, 5W-30, 10W-30

Product Use: Automotive Engine Oil
Product Number(s): 220013, 220135, 220155
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Not applicable.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and

drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 -	OSHA Z-1	5 mg/m3	--	--	--

C50)					

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Amber
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 1 @ 15.6°C (60.1°F) / 15.6°C (60.1°F) (Approximate)
Density: 0.8599 kg/l @ 15°C (59°F) (Typical)
Viscosity: 9.6 mm2/s @ 100°C (212°F) (Min)
Evaporation Rate: No data available
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available
Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: This material is not expected to react.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: The hazard evaluation is based on data for components or a similar material.
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), PICCS (Philippines), TSCA (United States).
One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 8,16
Revision Date: JULY 07, 2014

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Ultra-Duty Grease EP NLGI 0, 1, 2

Product Use: Grease
Product Number(s): 238011, 238012, 238013
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Environmental Hazards: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt
Zinc dialkyldithiophosphate	68649-42-3	1 - 5 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation

may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this

material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation

Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Zinc dialkyldithiophosphate	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Semi-solid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg Maximum @ 100 °C (212 °F)
Vapor Density (Air = 1): >1 Minimum
Initial Boiling Point: 260°C (500°F) Minimum
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: No data available
Melting Point: 165°C (329°F) (Min)
Specific Gravity: 1.10 @ 15.6°C (60.1°F) (Estimated)
Density: No data available
Viscosity: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: 274 °C (525 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS

DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc dialkyldithiophosphate	06

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Grease)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 9, 16

Revision Date: June 10, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Ultra-Duty Grease EP NLGI 0, 1, 2

Product Use: Grease
Product Number(s): 238011, 238012, 238013
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Environmental Hazards: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt
Zinc dialkyldithiophosphate	68649-42-3	1 - 5 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Zinc dialkyldithiophosphate	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Semi-solid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg Maximum @ 100 °C (212 °F)
Vapor Density (Air = 1): >1 Minimum
Initial Boiling Point: 260°C (500°F) Minimum
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: No data available
Melting Point: 165°C (329°F) (Min)
Specific Gravity: 1.1 @ 15.6°C (15.6°F) / 15.6°C (60.1°F) (Estimated)
Density: No data available
Viscosity: No data available
Evaporation Rate: No data available
Decomposition temperature: No Data Available

Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: 274 °C (525 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc dialkyldithiophosphate	03, 06

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Grease)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating

Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : GREASE 1 - GRS1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: OCTOBER 20, 2014

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron URSA® Super Plus EC SAE 15W-40

Product Number(s): CPS271201
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt
Zinc alkyl dithiophosphate	68649-42-3	1 - 5 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 204 °C (399 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable -
Density: 0.9 kg/l @ 15°C (59°F) (Typical)
Viscosity: 15.4 mm2/s @ 100°C (212°F) (Typical)
Evaporation Rate: No data available
Odor Threshold: No data available
Coefficient of Water/Oil Distribution: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: LD50: >5 g/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.For additional information on the acute toxicity of the components, call the technical information center.
ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer

warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3). During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:
01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), PICCS (Philippines), TSCA (United States).
One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

Revision Date: MAY 17, 2013

SECTION 16 OTHER INFORMATION

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 15, 16.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health

	Administration

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** New **Revision Number** 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Clorox® Bleach**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Laundry and household bleach

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company of Canada Ltd.
150 Biscayne Crescent
Brampton, Ontario L6W 4V3

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies, call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Serious eye damage/eye irritation	Category 2A

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Warning**

Hazard Statements
Causes serious eye irritation

Appearance Clear, pale yellow **Physical State** Liquid **Odor** Bleach

Precautionary Statements - Prevention
Wash hands and any exposed skin thoroughly after handling.
Wear eye protection/face protection such as safety glasses.

Precautionary Statements - Response
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)
Not applicable.

Unknown Toxicity
0.06% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Very toxic to aquatic life with long lasting effects.

Interactions with Other Chemicals
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Sodium hypochlorite	7681-52-9	1 - 5	*
Sodium hydroxide	1310-73-2	0.1 - 1	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin Contact Take off contaminated clothing. Rinse skin with plenty of water. If irritation develops, call a doctor.

Inhalation Move to fresh air. If breathing is affected, call a doctor.

Ingestion Drink a glassful of water. Call a poison control center or doctor immediately. DO NOT induce vomiting unless told to do so by a poison control center or doctor.

Protection of First-aiders Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Stinging and irritation of eyes.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes, skin, and clothing. Use personal protective equipment as required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products Toilet bowl cleaners, rust removers, acids, and ammonia-containing products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m^3	TWA: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection

If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use.

Skin and Body Protection

Wear rubber or neoprene gloves if there is the potential for repeated or prolonged skin contact.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid		
Appearance	Clear	**Odor**	Bleach
Color	Pale yellow	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	~12.5	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	Not flammable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.05	None known
Water Solubility	Soluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
Reacts with other household chemicals such as toilet bowl cleaners, rust removers, acids, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Toilet bowl cleaners, rust removers, acids, and ammonia-containing products.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapor or mist may irritate respiratory tract.

Eye Contact May cause eye irritation.

Skin Contact Prolonged contact may cause irritation.

Ingestion Ingestion may cause irritation to mucous membranes and gastrointestinal tract, nausea, vomiting, and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-
Sodium hydroxide 1310-73-2	-	1350 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity Carcinogenic potential is unknown.
Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document
117.20 mg/l ATEmix (4 hr)

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, state, and local regulations.

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III, MARINE POLLUTANT

ICAO

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III

IATA

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III

IMDG/IMO

UN-No	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
EmS No.	F-A, S-F
Marine Pollutant	Product is a marine pollutant according to the criteria set by IMDG/IMO
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM HYPOCHLORITE), 9, III, MARINE POLLUTANT

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.
DSL/NDSL	All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X
Sodium hydroxide 1310-73-2	1000 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	–	RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium hydroxide 1310-73-2	1000 lb	–	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium hydroxide 1310-73-2	X	X	X	X	

International Regulations

Canada
WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazard**	2	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	2	**Flammability** 0	**Physical Hazard** 0	**Personal Protection**	B

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date New

Revision Note New

Reference 1076851/173214.001

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

FICHE DE DONNÉES DE SÉCURITÉ

Date d'émission 5 janvier 2015 **Date de révision** Nouvelle **Numéro de révision** 0

1. IDENTIFICATION DE LA SUBSTANCE/DE LA PRÉPARATION ET DE LA SOCIÉTÉ/L'ENTREPRISE

Identificateur de produit

Nom du produit **Eau de Javel Clorox®**

Autres moyens d'identification

Synonymes Aucun

Utilisation recommandée pour le produit chimique et restrictions en matière d'utilisation

Utilisation recommandée Lessive et eau de Javel domestique

Utilisations déconseillées Aucune information disponible

Renseignements concernant le fournisseur de la fiche de données de sécurité

Adresse du fournisseur
The Clorox Company of Canada Ltd.
150 Biscayne Crescent
Brampton, Ontario L6W 4V3

Numéro de téléphone d'urgence

Numéros de téléphone d'urgence Pour des urgences médicales, appelez : 1 800 446-1014
Pour des urgences en matière de transport, appelez Chemtrec : 1 800 424-9300

2. IDENTIFICATION DES DANGERS

Classification

Ce produit chimique est considéré comme dangereux selon la norme sur la communication des renseignements à l'égard des matières dangereuses 2012 d'OSHA (29 CFR 1910.1200)

Lésions oculaires graves/irritation oculaire	Catégorie 2A

Éléments d'étiquetage SGH, y compris les conseils de prudence

Vue d'ensemble des procédures d'urgence

Mot indicateur **Avertissement**

Mentions de danger
Provoque une sévère irritation des yeux

Apparence Transparent, jaune pâle **État physique** Liquide **Odeur** Javellisant

Conseils de prudence - Prévention
Se laver les mains et toute peau exposée à fond après manutention.
Porter une protection oculaire/faciale telle que des lunettes de sécurité.

Conseils de prudence - Réaction
Yeux :
EN CAS DE CONTACT AVEC LES YEUX : Rincer prudemment avec de l'eau pendant plusieurs minutes. Retirer les verres de contact si la victime en porte et qu'il est possible de les retirer facilement. Continuer à rincer. Si l'irritation oculaire persiste : Obtenir une consultation médicale ou des soins médicaux.

Conseils de prudence - Stockage
Aucun

Conseils de prudence - Élimination
Aucun

Dangers non classés ailleurs (DNCA)
Sans objet.

Toxicité inconnue
0,06 % du mélange est constitué d'ingrédients de toxicité inconnue

Autres informations
Très toxique pour les organismes aquatiques, entraîne des effets à long terme

Interactions avec d'autres produits chimiques
Réagit avec d'autres produits chimiques domestiques tels que nettoyants de cuvette de toilette, les produits antirouille, les acides et les produits à base d'ammoniac pour produire des gaz dangereux, comme le chlore et autres produits chlorés.

3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

Nom chimique	N° CAS	% en poids	Secret commercial
Hypochlorite de sodium	7681-52-9	1 - 5	*
Hydroxyde de sodium	1310-73-2	0,1 - 1	*

* Le pourcentage (concentration) exact de composition est retenu comme un secret commercial.

4. PREMIERS SOINS

Premiers soins

Conseils généraux Présenter cette fiche signalétique au médecin traitant.

Contact avec les yeux Rincer immédiatement avec une grande quantité d'eau, également sous les paupières, pendant au moins quinze minutes. Retirer les verres de contact si la victime en porte et qu'il est possible de les retirer facilement. Continuer à rincer. Garder les yeux grands ouverts lors du rinçage. Ne pas frotter la partie touchée. Obtenir des soins médicaux si une irritation se produit et persiste.

Contact avec la peau Retirer les vêtements contaminés. Rincer la peau avec beaucoup d'eau. En cas d'irritaiton, appeler un médecin.

Inhalation Déplacer à l'air frais. Si la respiration est touchée, appeler un médecin.

Ingestion Boire un verre d'eau. Appeler immédiatement un centre antipoison ou un médecin. NE PAS provoquer de vomissements à moins d'en avoir reçu la directive d'un centre antipoison ou d'un médecin.

Protection des secouristes Éviter le contact avec la peau, les yeux ou les vêtements. Utiliser l'équipement de protection individuel requis. Porter des vêtements de protection individuelle (voir la section 8).

Symptômes/effets les plus importants, aigus et retardés

Symptômes/effets les plus importants Picotement et irritation des yeux.

Indications quant à la nécessité éventuelle d'une prise en charge médicale immédiate ou d'un traitement spécial

Notes au médecin Traiter en fonction des symptômes.

5. MESURES À PRENDRE EN CAS D'INCENDIE

Agents extincteurs appropriés
Utiliser des mesures d'extinction appropriées aux circonstances locales et à l'environnement immédiat.

Agents extincteurs inappropriés
ATTENTION : L'utilisation d'une pulvérisation d'eau pour combattre un incendie peut se révéler inefficace.

Dangers spécifiques du produit
Aucune information disponible.

Données sur les risques d'explosion

Sensibilité à un choc mécanique Aucune.

Sensibilité à une décharge statique Aucune.

Équipement de protection et précautions pour les pompiers
Comme avec tout incendie, porter un appareil respiratoire autonome à demande de pression, MSHA/NIOSH (homologué ou équivalent) et une tenue de protection complète.

6. MESURES À PRENDRE EN CAS DE DÉVERSEMENTS ACCIDENTELS

Précautions individuelles, équipement de protection et mesures d'urgence

Précautions individuelles Éviter tout contact avec les yeux, la peau et les vêtements. Utiliser l'équipement de protection individuelle requis.

Autres informations Consulter les mesures de protection données aux sections 7 et 8.

Précautions relatives à l'environnement

Précautions relatives à l'environnement Voir la Section 12 pour des données écologiques.

Méthodes et matériaux pour l'isolation et le nettoyage

Méthodes d'isolation Empêcher d'autres fuites ou déversements lorsqu'il est possible de le faire en toute sécurité.

Méthodes de nettoyage Absorber et conteneuriser. Laver les résider et les envoyer à un égout sanitaire. Contacter une installation de traitement sanitaire à l'avance pour s'assurer de sa capacité à traiter le matériel emporté.

7. MANUTENTION ET STOCKAGE

Précautions relatives à la sécurité de manutention

Manutention Manipuler conformément aux bonnes pratiques de sécurité et d'hygiène industrielle. Éviter le contact avec la peau, les yeux et les vêtements Ne pas manger, boire ou fumer en manipulant le produit.

Conditions de sécurité de stockage, y compris les incompatibilités

Stockage Conserver les récipients bien fermés dans un endroit sec, frais et bien ventilé.

Produits incompatibles Nettoyants de cuvette de toilette, les produits antirouille, les acides et les produits à base d'ammoniac.

8. CONTRÔLE DE L'EXPOSITION/PROTECTION INDIVIDUELLE

Paramètres de contrôle

Directives relatives à l'exposition

Nom chimique	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydroxyde de sodium 1310-73-2	Valeur plafond : 2 mg/m^3	TWA : 2 mg/m^3	IDLH : 10 mg/m^3 Valeur plafond : 2 mg/m^3

ACGIH TLV : Conférence américaine des hygiénistes industriels gouvernementaux - valeur/limite/d'exposition/ / OSHA/PEL : Administration de la sécurité et de la santé professionnelle - limites/d'exposition/admissibles/ / NIOSH/IDLH : Dangereux immédiatement pour la santé ou la vie.

Contrôles d'ingénierie appropriés

Mesures techniques Douches
Douches oculaires
Systèmes de ventilation

Mesures de protection individuelle telles que les équipements de protection individuelle

Protection des yeux/du visage En cas d'éclaboussures probables : Porter des lunettes de sécurité à écrans latéraux (ou des lunettes à coques). Aucune nécessaire pour une utilisation par le consommateur.

Protection de la peau et du corps Porter des gants en caoutchouc ou en néoprène s'il existe une possibilité d'un contact répété ou prolongé avec la peau.

Protection respiratoire En cas d'irritation ou de dépassement des limites d'exposition, vous devez porter une protection respiratoire approuvée NIOSH/MSHA. Des respirateurs à adduction d'air à pression positive peuvent être requis pour des concentrations élevées de contaminants atmosphériques. Une protection respiratoire doit être fournie conformément à la réglementation locale en cours.

Mesures d'hygiène Retirer et laver les vêtements contaminés avant de les réutiliser. Éviter le contact avec la peau, les yeux ou les vêtements. Ne pas manger, boire ou fumer en manipulant le produit.

9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Propriétés physiques et chimiques

État physique	Liquide		
Apparence	Transparent	**Odeur**	Javellisant
Couleur	Jaune pâle	**Seuil olfactif**	Aucune information disponible

Propriété	Valeurs	Remarques/ Méthode
pH	~ 12,5	Aucune connue
Point de fusion/point de congélation	Aucune donnée disponible	Aucune connue
Point d'ébullition / Domaine d'ébullition	Aucune donnée disponible	Aucune connue
Point d'éclair	Ininflammable	Aucune connue
Taux d'évaporation	Aucune donnée disponible	Aucune connue
Inflammabilité (solide, gaz)	Aucune donnée disponible	Aucune connue
Limites d'inflammabilité dans l'air		
Limite supérieure d'inflammabilité	Aucune donnée disponible	Aucune connue
Limite inférieure d'inflammabilité	Aucune donnée disponible	Aucune connue
Tension de vapeur	Aucune donnée disponible	Aucune connue
Densité de la vapeur	Aucune donnée disponible	Aucune connue
Densité	~ 1,05	Aucune connue
Solubilité dans l'eau	Soluble dans l'eau	Aucune connue
Solubilité dans d'autres solvants	Aucune donnée disponible	Aucune connue
Coefficient de partage : n-octanol/eau	Aucune donnée disponible	Aucune connue
Température d'auto-inflammation	Aucune donnée disponible	Aucune connue
Température de décomposition	Aucune donnée disponible	Aucune connue
Viscosité cinématique	Aucune donnée disponible	Aucune connue
Viscosité dynamique	Aucune donnée disponible	Aucune connue
Propriétés explosives	Non explosif	
Propriétés comburantes	Aucune donnée disponible	

Autres informations

Point de ramollissement	Aucune donnée disponible
Teneur en COV (%)	Aucune donnée disponible
Dimension de particules	Aucune donnée disponible
Distribution granulométrique	Aucune donnée disponible

10. STABILITÉ ET RÉACTIVITÉ

Réactivité
Réagit avec d'autres produits chimiques domestiques tels que nettoyants de cuvette de toilette, les produits antirouille, les acides et les produits à base d'ammoniac pour produire des gaz dangereux, comme le chlore et autres produits chlorés.

Stabilité chimique
Stable dans les conditions de stockage recommandées.

Risque de réactions dangereuses
Aucun dans des conditions normales de traitement.

Conditions à éviter
Aucune connue selon les renseignements fournis.

Matériaux incompatibles
Nettoyants de cuvette de toilette, les produits antirouille, les acides et les produits à base d'ammoniac.

Produits de décomposition dangereux
Aucune connue selon les renseignements fournis.

11. DONNÉES TOXICOLOGIQUES

Les voies d'exposition probables

Renseignements sur le produit .

Inhalation Une exposition aux vapeurs ou à la bruine peut irriter les voies respiratoires.

Contact avec les yeux Peut causer une irritation des yeux.

Contact avec la peau Un contact prolongé peut causer une irritation.

Ingestion Une ingestion peut provoquer une irritation des muqueuses et du tractus gastro-intestinal, des nausées, des vomissements et une diarrhée.

Informations sur les composants

Nom chimique	DL_{50} orale	DL_{50} cutanée	CL_{50} par inhalation
Hypochlorite de sodium 7681-52-9	8 200 mg/kg (rat)	> 10 000 mg/kg (lapin)	-
Hydroxyde de sodium 1310-73-2	-	1350 mg/kg (lapin)	-

Informations sur les effets toxicologiques

Symptômes Peut causer une rougeur et un larmoiement des yeux.

Les effets retardés et immédiats ainsi que les effets chroniques dus à une exposition à court et long terme

Sensibilisation Aucune information disponible.

Effets mutagènes Aucune information disponible.

Cancérogénicité Le tableau ci-dessous indique si chaque agence a inscrit un ingrédient comme étant cancérigène.

Nom chimique	ACGIH	CIRC	NTP	OSHA
Hypochlorite de sodium 7681-52-9	-	Groupe 3	-	-

CIRC (Centre international de recherche sur le cancer)
Groupe 3 - Ne peut être classifié pour la cancérogénicité chez les humains

Toxicité pour la reproduction Aucune information disponible.

Toxicité pour certains organes cibles - exposition unique Aucune information disponible.

Toxicité pour certains organes cibles - exposition répétée Aucune information disponible.

Toxicité chronique Le potentiel cancérogène est inconnu.

Effets sur les organes cibles Appareil respiratoire, yeux, peau, tractus gastro-intestinal (GI).

Danger par aspiration Aucune information disponible.

Valeurs numériques de la toxicité - Information sur le produit

Les valeurs suivantes sont calculées selon le chapitre 3.1 du document SGH :
117,20 mg/l ETAmél (4 h)

12. DONNÉES ÉCOLOGIQUES

Écotoxicité
Très toxique pour les organismes aquatiques, entraîne des effets à long terme.

Persistance et dégradation
Aucune information disponible.

Bioaccumulation
Aucune information disponible.

Autres effets nocifs
Aucune information disponible.

13. DONNÉES SUR L'ÉLIMINATION DU PRODUIT

Méthodes d'élimination
Éliminer conformément à tous les règlements fédéraux, provinciaux et locaux.

Récipients contaminés
Ne pas réutiliser les récipients vides. Éliminer conformément à tous les règlements fédéraux, provinciaux et locaux.

14. INFORMATIONS RELATIVES AU TRANSPORT

DOT NON RÉGLEMENTÉ

TMD

Numéro ONU UN3082

Désignation officielle de transport MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A.

Classe de danger 9

Groupe d'emballage III

Description UN3082, MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A. (HYPOCHLORITE DE SODIUM), 9, III, POLLUANT MARIN

OACI :

Numéro ONU	UN3082
Désignation officielle de transport	MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A.
Classe de danger	9
Groupe d'emballage	III
Description	UN3082, MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A. (HYPOCHLORITE DE SODIUM), 9, III

IATA

Numéro ONU	UN3082
Désignation officielle de transport	MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A.
Classe de danger	9
Groupe d'emballage	III
Description	UN3082, MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A. (HYPOCHLORITE DE SODIUM), 9, III

IMDG/OMI

Numéro ONU	UN3082
Désignation officielle de transport	MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A.
Classe de danger	9
Groupe d'emballage	III
EmS N°	F-A, S-F
Polluant marin	Le produit est un polluant marin selon les critères fixés par l'IMDG/OMI
Description	UN3082, MATIÈRE DANGEREUSE DU POINT DE VUE DE L'ENVIRONNEMENT, LIQUIDE, N.S.A. (HYPOCHLORITE DE SODIUM), 9, III, POLLUANT MARIN

15. INFORMATIONS SUR LA RÉGLEMENTATION

Inventaire de produits chimiques

TSCA	Tous les composants de ce produit sont soit inscrits sur l'inventaire TSCA 8(b) ou sont exempts d'inscription.
LIS/LES	Tous les composants sont inclus dans la LIS ou la LES.

TSCA - États-Unis - Section 8 (b) de l'inventaire TSCA (loi réglementant les substances toxiques)
LIS/LES – liste intérieure des substances/liste extérieure des substances pour le Canada

ÉTATS-UNIS Règlements fédéraux

SARA 313
Section 313 du titre III de la loi du Superfund Amendments and Reauthorization Act de 1986 (SARA). Ce produit ne contient aucun produit chimique soumis aux exigences en matière de rapport de la Loi et du titre 40 du Code of Federal Regulations, partie 372

SARA 311/312 Catégories de dangers

Risque aigu pour la santé	Oui
Danger chronique pour la santé	Non
Risque d'incendie	Non
Danger de libération soudaine de pression	Non
Danger de réaction	Non

Loi sur la qualité de l'eau (Clean Water Act)
Ce produit contient les substances suivantes qui sont des polluants réglementés conformément à la loi sur la qualité de l'eau (Clean Water Act) (40 CFR 122.21 et 40 CFR 122.42)

Nom chimique	CWA - quantités à déclarer	CWA - polluants toxiques	CWA - polluants prioritaires	CWA - substances dangereuses
Hypochlorite de sodium 7681-52-9	100 lb			X
Hydroxyde de sodium 1310-73-2	1000 lb			X

CERCLA
Sous sa forme commerciale, ce produit contient une ou plusieurs substances réglementées comme une substance dangereuse en vertu de CERCLA (Comprehensive Environmental Response Compensation and Liability Act) (40 CFR 302)

Nom chimique	Quantités à déclarer de substances dangereuses	Quantités à déclarer de substances très dangereuses	Quantité à déclarer (QD)
Hypochlorite de sodium 7681-52-9	100 lb	–	QD 100 lb QD finale QD 45,4 kg QD finale
Hydroxyde de sodium 1310-73-2	1000 lb	–	QD 1000 lb QD finale QD 454 kg QD finale

États-Unis - Réglementation des états

Proposition 65 de la Californie
Ce produit ne contient aucun produit chimique de la proposition 65.

Règlement d'état sur le droit à l'information aux États-Unis

Nom chimique	New Jersey	Massachusetts	Pennsylvanie	Rhode Island	Illinois
Hypochlorite de sodium 7681-52-9	X	X	X	X	
Hydroxyde de sodium 1310-73-2	X	X	X	X	

Règlements internationaux

Canada
Classe de dangers du SIMDUT
D2B - Matières toxiques

16. AUTRES INFORMATIONS

NFPA **Danger pour la santé** 2 **Inflammabilité** 0 **Instabilité** 0 **Propriétés physiques et chimiques** -

HMIS **Danger pour la santé** 2 **Inflammabilité** 0 **Danger physique** 0 **Protection individuelle** B

Préparée par
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1 800 572-6501

Date de révision Nouvelle

Note de révision Nouvelle

Référence 1076851/173214.001

Avis de non-responsabilité général
À notre connaissance et selon nos renseignements et notre opinion à la date de publication de cette fiche signalétique, les renseignements fournis dans cette dernière sont exacts. Les renseignements donnés sont conçus uniquement comme un guide pour la manipulation, l'utilisation, le traitement, l'entreposage, le transport, l'élimination et le rejet sécuritaires du produit et ne doivent pas être considérés comme une garantie ou une norme de qualité. Les renseignements sont liés uniquement au produit particulier indiqué et peuvent ne pas être valides pour un tel produit utilisé en association avec toute autre substance ou dans tout autre procédé, sauf si indiqué dans le texte.

Fin de la fiche signalétique

THE CLOROX COMPANY

The Clorox Company of Canada, Ltd.
150 Biscayne Crescent
Brampton, Ontario, Canada
L6W 4V3

Material Safety Data Sheet

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT NAME: **CLOROX® COMMERCIAL SOLUTIONS™ CLOROX® DISINFECTING WIPES - FRESH SCENT - DIN 02319462**	**PRODUCT IDENTIFICATION NUMBER**: Not applicable.
PRODUCT USE: Moistened disinfecting wipes for hospital, food processing, and institutional use	

MANUFACTURER	SUPPLIER
The Clorox Company of Canada, Ltd. 150 Biscayne Crescent Brampton, Ontario L6W 4V3 EMERGENCY PHONE NO.: 1-800-446-1014	The Clorox Company of Canada, Ltd. 150 Biscayne Crescent Brampton, Ontario L6W 4V3 EMERGENCY PHONE NO.: 1-800-446-1014

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Ingredient	% (w/w)	CAS Number	LD50 of Material (Specify Species & Route)	LC50 of Material (Specify Species)
n-Alkyl (5% C_{12}, 60% C_{14}, 30% C_{16}, 5% C_{18}) dimethyl benzyl ammonium chloride	0.1 - 0.2%	68391-01-5	Not available.	Not available.
n-Alkyl (68% C_{12}, 32% C_{14}) dimethyl ethylbenzyl ammonium chloride	0.1 - 0.2%	68956-79-6	Not available.	Not available.
Isopropyl alcohol	1 - 5	67-63-0	5 g/kg (rat, oral) 12.8 g/kg (rabbit, dermal)	22600 ppm (rat)

SECTION 3 - PHYSICAL DATA

Physical State: Liquid absorbed into non-woven wipes.	**Odour & Appearance:** Clear, colorless, thin liquid with a fruity odour absorbed into white, non-woven wipes.		**Odour Threshold:** Not available.	**Specific Gravity:** ≈1.0 for liquid
Vapour Pressure: Not available.	**Vapour Density:** N. Av.	**Evaporation Rate:** N. Av.	**Boiling Point:** N. Av.	**Freezing Point:** N. Av.
% Volatile (by volume): > 98% for liquid	**Solubility in Water:** Appreciable for liquid	**pH:** 5 - 7	**Coeff. of Water/Oil Dist.**: Not available.	

SECTION 4 - FIRE AND EXPLOSION DATA

Flammability: Liquid is Class B, Division 3 (Combustible Liquid). Do not use or store near heat or open flame. **Yes: X No: ___ If yes, under which conditions?** Liquid ignites but does not sustain combustion.		
Means of Extinction: Dry chemical, carbon dioxide (CO_2), foam, or water spray.		
Special Procedures: None.		
Flashpoint & Method: ≈48°C (closed cup) for liquid.	**Upper Flammable Limit (% by volume):** Not available.	**Lower Flammable Limit (% by volume):** Not available.
Autoignition Temperature: N. Ap.	**Hazardous Combustion Products:** Products of combustion are toxic.	
Explosion Data - Sensitivity to Impact: Not applicable.	**Explosion Data - Sensitivity to Static Discharge:** Not applicable.	

SECTION 5 - REACTIVITY DATA

Chemical Stability: **Yes: X No: ___ If no, under which conditions?**	
Incompatibility with other substances: **Yes: X No: ___ If so, which ones?**	Mixing with sodium hypochlorite may release small amounts of formaldehyde gas.
Reactivity, if any, and under what conditions?	None known.
Hazardous decomposition products?	Products of decomposition are toxic.

SECTION 6 - TOXICOLOGICAL PROPERTIES

Route of Entry? **Skin Contact:** X **Skin Absorption:** ___ **Eye Contact:** X **Inhalation Acute:** ___ **Inhalation Chronic:** ___ **Ingestion:** ___			
Effects of Acute Exposure to Material: Direct or prolonged eye or skin contact may result in irritation.			
Effects of Chronic Exposure to Material: None known.			
Exposure Limits (TLV, ACGIH): Isopropyl alcohol - 200 ppm - TWA 400 ppm - STEL	**Irritancy of Material:** Moderately irritating to eyes and slightly irritating to skin.	**Sensitization Property of Material:** Not a sensitizer.	**Carcinogenicity of Material:** Not a carcinogen.
Teratogenicity/Embryotoxicity: Not teratogenic or embryotoxic.	**Reproductive Toxicity:** Not a reproductive toxicant.	**Mutagenicity:** Not mutagenic.	**Synergistic Materials:** None known.

SECTION 7 - PREVENTATIVE MEASURES

Personal Protective Equipment:		
Gloves (specify): Wear rubber or nitrile gloves if there is the potential for repeated or prolonged skin contact.	**Respirator (specify):** In situations where exposure limits may be exceeded, a NIOSH-approved respirator is advised.	**Eye (specify):** Safety glasses.
Footwear (specify): Not applicable.	**Clothing (specify):** Not applicable.	**Other (specify):** Not applicable.
Engineering Controls (specify, e.g. ventilation, enclosed process):	Use general ventilation to minimize exposure to product vapour or mist.	
Leak and Spill Procedure:	Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.	
Waste Disposal:	Dispose of used wipes in trash. Do not flush. Dispose of in accordance with existing federal, provincial, and municipal environmental regulations.	
Handling Procedures & Equipment:	Wash thoroughly with soap and water after using. Avoid contamination of food. In food preparation areas, wash disinfected surfaces with potable water before allowing contact with food. Not for personal cleansing. Not for use as a baby wipe.	
Storage Requirements:	Do not store near heat or open flame.	
Special Shipping Information:	Not restricted per TDG Regulations Part 2.18.	

SECTION 8 - FIRST AID MEASURES

Eye Contact:	In case of eye contact, flush with plenty of water for 15 minutes. If irritation persists, get medical attention immediately.
Skin Contact:	In case of skin contact, wash thoroughly with soap and water. If on clothes, remove clothes immediately.
Ingestion:	If swallowed, drink two or three glasses of milk or water. Do not induce vomiting. Contact a physician or poison control center immediately.
Inhalation:	Remove to fresh air. If breathing problems develop, call a physician.

SECTION 9 - PREPARATION DATE OF MSDS

Prepared by (group, department, etc.)	**Phone Number:**	**Date:**
Clorox Services Company	1-925-425-6100	January 28, 2015 V1

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N. Av. = Not available.

N. Ap. = Not applicable.

SAFETY DATA SHEET

Issuing Date January 5, 2015 **Revision Date** New **Revision Number** 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Clorox Commercial Solutions® Clorox® Germicidal Wipes**

Other means of identification

EPA Registration Number 67619-12

Recommended use of the chemical and restrictions on use

Recommended use Moistened disinfecting bleach wipes

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
The Clorox Company
1221 Broadway
Oakland, CA 94612

Phone: 1-510-271-7000

Emergency telephone number

Emergency Phone Numbers For Medical Emergencies call: 1-800-446-1014
For Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Appearance Clear, colorless liquid absorbed into white, non-woven wipes	**Physical State** Thin liquid absorbed into non-woven wipes	**Odor** Fruity, floral, bleach

Precautionary Statements - Prevention
None

Precautionary Statements - Response
None

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
21.8% of the mixture consists of ingredient(s) of unknown toxicity

Other information
No information available

Interactions with Other Chemicals
Reacts with other chemicals such as ammonia, toilet bowl cleaners, rust removers or acids to produce hazardous gases, such as chlorine and other chlorinated compounds.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product contains no substances that at their given concentrations are considered to be hazardous to health.

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. If present, remove contact lenses after the first 5 minutes of rinsing, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Skin Contact Rinse skin with plenty of water. If irritation persists, call a doctor.

Inhalation Move to fresh air. If breathing problems develop, call a doctor.

Ingestion Drink a glassful of water. Call a doctor or poison control center.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Liquid may cause eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Hazardous Combustion Products
Oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental Precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed-down material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatible Products Ammonia, toilet bowl cleaners, rust removers, and acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any ingredients with occupational exposure limits that are at concentrations below their cut-off values/concentrations and that contribute to the hazard classification of the product.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.

Skin and Body Protection No special protective equipment required.

Respiratory Protection No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid absorbed into non-woven wipes		
Appearance	Clear, thin liquid absorbed into non-woven wipes	**Odor**	Fruity, floral, bleach
Color	Colorless liquid - white non-woven wipes	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ Method**
pH	12 - 12.5 (liquid)	None known
Melting/freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	None known
Lower flammability limit	No data available	None known
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	~1.0 (liquid)	None known
Water Solubility	Complete (liquid)	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive Properties	Not explosive	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity

Reacts with other chemicals such as ammonia, toilet bowl cleaners, rust removers or acids to produce hazardous gases, such as chlorine and other chlorinated compounds.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Ammonia, toilet bowl cleaners, rust removers, and acids.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation Exposure to vapor or mist may irritate respiratory tract.

Eye Contact Liquid may cause irritation.

Skin Contact Liquid may cause slight irritation.

Ingestion Ingestion of liquid may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hypochlorite 7681-52-9	8200 mg/kg (Rat)	>10000 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms Liquid may cause redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.
Chronic Toxicity No known effect based on information supplied.
Target Organ Effects Respiratory system, eyes, skin, gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No information available.

Persistence and Degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods
Dispose of in accordance with all applicable federal, state, and local regulations.

Contaminated Packaging
Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated.

TDG Not regulated.

ICAO Not regulated.

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Chemical Inventories

TSCA All components of this product are either on the TSCA 8(b) Inventory or otherwise exempt from listing.

DSL/NDSL All components are on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X
Sodium hydroxide 1310-73-2	1000 lb			X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium hydroxide 1310-73-2	1000 lb	–	RQ 1000 lb final RQ RQ 454 kg final RQ

EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

> **CAUTION:** Liquid causes moderate eye irritation. Do not get in eyes or on clothing. Avoid contact with clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. For sensitive skin or prolonged use, wear gloves.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium hydroxide 1310-73-2	X	X	X	X	

International Regulations

Canada
WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

NFPA	**Health Hazard**	1	**Flammability**	0	**Instability**	0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard**	1	**Flammability**	0	**Physical Hazard**	0	**Personal Protection** -

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Preparation/Revision Date January 5, 2015

Revision Note New

Reference 1138511-B/121695.001/CLX51375001-002

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name **CLR® BATH & KITCHEN CLEANER**

Restrictions on Use: Incompatible with strong oxidizing agents, metals (except stainless steel, chrome), acids, bases, and bleach. Do not use on marble.

Product Use: Aqueous Acidic Cleaner for Removal of Calcium, Lime, and Soap Scrum from Bath & Kitchen Hard Surfaces Retail Package: (26 fl. oz.)

Manufacturer: **Jelmar, LLC**
Address: 5550 W. Touhy Ave.
Skokie, IL 60077 USA
1(847) 675-8400
Emergency Phone Number: 1(800) 323-5497 (USA) 8:30 A.M. – 4:30 P.M. CST Monday – Friday
Emergency 24 hour Contact: Chemtrec 1(800) 424-9300

2 – HAZARDS IDENTIFICATION

COMPLIES WITH 29CFR 1900.1200 DATED MAY 2012

WARNING

ACUTE EYE IRRITATION (Category 2B)
ACUTE DERMAL IRRATION (Category 4)

HAZARD NOT OTHERWISE CLASSIFIED (HNOC)
Not applicable

OTHER INFORMATION
No information available

DO NOT get in eyes, on skin or clothing.
DO NOT mix with bleach or other household chemicals harmful; fumes may result.
DO NOT ingest.
DO NOT breathe vapor or mist. Use in well ventilated areas. Keep container closed when not in use.

KEEP OUT OF REACH OF CHILDREN

Hazard statement(s)

Causes eye irritation
May cause mild skin irritation.

Precautionary statement (s)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
Wash skin thorough after handling.
If skin irritation or rash occurs: Get medical advice/attention.
Do not eat, drink or smoke when handling this product.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
Avoid breathing fumes.

SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

Component	CAS#	OSHA HAZARD	% by Weight
1. Lactic Acid	79-33-4	YES	5.00-10.00
2. Lauramine Oxide	1643-20-5	YES	1.50-4.00

The exact percentages (concentration) of mixture has been withheld as a trade secret in accordance to paragraph (i) of §1910.1200.

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: In case of eye contact, immediately rinse eye thoroughly with plenty of water. Remove contact lenses, and continue rinsing for at least 15 minutes. If irritation persists, get medical attention.
SKIN CONTACT: Can be irritating to skin, prolonged contact can be more severe, no adverse effects during normal usage. In case of skin contact, rinse area for at least 15 minutes. Remove contaminated clothing and shoes, wash thoroughly before reuse. If irritation persists get medical attention.
INHALATION: Not a significant route of exposure. Remove to fresh air. If breathing is difficult, GET MEDICAL ATTENTION IMMEDIATELY.
INGESTION: DO NOT induce vomiting. If fully conscious, drink 16 ounces of water. CALL A PHYSCIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER give an unconscious person anything to ingest.

SECTION 5 – FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Not flammable. Use appropriate media for area. Use water spray, dry chemical, alcohol-resistant foam or carbon dioxide.
HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide. Thermal decomposition can lead to irritating gases and vapors.
FIRE FIGHTING METHODS: Evacuate area of personnel. Wear protective NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Run-off of large quantities of product from fire control may cause pollution. Contact appropriate agencies.
FIRE AND EXPLOSION HAZARDS: None known.

SECTION 6 – ACCIDENTAL RELEASES MEASURES

Steps to be taken in Case Material is Released or Spilled: Avoid contact with skin and eyes
Small Spill: No special clean-up procedure is necessary for small (less than 1 gallon) spills. Flush spill area with water. Wear rubber gloves.
Large Spill: Use personal protection recommended in Section 8. Isolate area, and deny entry to unnecessary and unprotected personnel. Dam spill, and absorb with earth, sand or similar material. Place

in non-leaking containers. Dispose of collected material according to local, state, and federal regulations. Flush residue with large amount of water. Avoid direct discharge to sewers and surface waters.

SECTION 7- HANDLING AND STORAGE

HANDLING and STORAGE: Avoid contact with eyes, skin or clothing. May be harmful or if swallowed. Use with adequate ventilation. Avoid breathing vapors or mist. Do not eat, drink, or smoke in work area. Wash hand thoroughly after use. Consumer size containers (26 fluid ounces), should be rinsed and recycled. Store in cool, well-ventilated area, away from heat. Keep containers tightly closed. Avoid contact with combustible materials, wood, and organic materials. Store in original container in a secure area away from children and pets.

DO NOT MIX WITH BLEACH, OR ANY OTHER PRODUCTS AS TOXIC FUMES MAY RESULT. KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:	OSHA		ACGIH	
COMPONENT	**PEL**	**STEL/C**	**TWA**	**STEL/C**
1. Lactic Acid	N.E	N.E.	N.E.	N.E.
2. Lauramine Oxide	N.E.	N.E.	N.E.	N.E.

VENTILATION REQUIREMENT: Avoid prolonged breathing mists or dusts of this product. Use with adequate ventilation. Do not use in closed or confined spaces.

RESPIRATORY PROTECTION: None required during normal household use.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of product.

EYE PROTECTION: Not required during normal household usage. Emergency responders should wear full eye and face protection.

SKIN PROTECTION: Rubber gloves with protective cuff. Emergency responders should wear impermeable gloves.

OTHER PROTECTION: Emergency responders should wear chemical type (impermeable) protective clothing and footwear where direct contact with chemicals in this product is possible.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after use or handling.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Crystal clear, water white liquid		**Flammability:**	Not Flammable
Odor: Clean floral		**Upper/Lower Flammability**	N.A.
Odor Threshold:	N.D.	**Vapor Pressure:**	N.D
pH: @20ºC	2.40-2.70	**Vapor Density (mm Hg):**	N.D.
Melting Point:	N.D.	**Relative Density @20ºC:**	1.000 – 1.020
Freezing Point:	N.D	**Solubility in water**:	100%
Boiling Point:	99ºC / 210ºF	**Partition Coefficient;**	N.D.
Boiling Point Range:	N.A.	**n-octanol/water**	
Flash Point:	None	**Auto Ignition Temperature**:	N.A.
Evaporation Rate:	N.D	**Decomposition Temperature:**	N.A.
		Viscosity:	N.D.

SECTION 10 – STABILITY AND REACTIVITY

REACTIVITY: N.A.
CHEMICAL STABILITY: Stable under normal storage conditions.
POSSIBILITY OF HAZARDOUS REACTIONS: N. D.
CONDITIONS TO AVOID: Avoid elevated temperatures.
INCOMPATIBLE MATERIALS: Strong oxidizing agents, metals (except stainless steel and chrome), bleach, acids, and bases.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can lead to release of irritating gases, vapors and carbon oxides. In the event of fire: see Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Exposure	Eyes, Skin, Inhalation, Ingestion.
Eyes	Irritant: avoid eye contact. Effects may vary depending on length of exposure, solution concentration
Skin	Mild Irritant. Prolonged contact may cause dermatitis, and itching.
Inhalation	No adverse effects expected under typical use conditions.
Ingestion	Oral burns, vomiting, and gastrointestinal disturbance.

LD_{50} ACUTE EYE IRRITATION: GHS Category 2B
LD_{50} ACUTE DERMAL IRRATION - RABBITS: GHS Category 4 – Mild Skin Irritant
LD_{50} ACUTE ORAL TOXICITY – RATS: >5,000 mg/kg
LD_{50} ACUTE DERMAL TOXICITY - RABBITTS: >5,000 mg/kg
LD_{50} ACUTE INHALATION TOXICITY – RATS: GHS Category 4

This product does not contain any substances that are considered carcinogenic by the National Toxicology Program (NTP) Report on Carcinogens and have not been found to be potential carcinogens in the International Agency for Research on Cancer (IARC) Monographs or found to be potential carcinogens by OSHA.

Reproductive Toxicity: N.A.
Specific Target Organ Toxicity – Single Exposure N.A.
Specific Organ Toxicity – Repeated Dose: N. A.

SECTION 12- ECOLOGICAL INFORMATION

L-(+)-LACTIC ACID:

Ecotoxicity

Toxicity to Algae: EC50/Algae >2.8 g/L 72h Pseudokirchnerella subcapitata.
EC50/Algae 3.5 g/L 70h Pseudokirchnerella subcapitata.

Toxicity to Fish: LC50: 130 mg/L 96h Pncorhynchus mykiss
LC50: 320 mg/L 96h Danio rerio

Toxicity to Micro-organisms: LC50>100 mg/L 3h

Toxicity to daphnia and other aquatic vertebrates: EC50 130 mg/L 48h Daphnia magna
EC50 250 mg/L 48h Daphnia magna

Persistence / degradability
Readily biodegradable.
Bioaccumulative Potential: Does not bioaccumulate.

Chemical Name	Log Pow	Bioconcentration factor (BCF)
L-(+)-Lactic Acid	-0.62	

Mobility in soil No information available.

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB**).**

Other Adverse Effects No information available.

LAURAMINE OXIDE:

Ecotoxicity; Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Product	Species		Test Results
Acute			
Algae	EC50	Algae	0.19 mg/l, 72 hours
Crustacea	EC50	Daphnia	3.1 mg/l, 48 hours
Fish	LC50	Fish	2.67 mg/l, 96 hours

Persistence and degradability: Expected to be readily biodegradable.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Rinse empty bottles and recycle. Dispose of unused product in a permitted hazardous waste management facility following all local, state, and federal regulations.
Follow label warnings, since containers may retain some reside of the product. Processing, use or contamination of this product may change the waste management options. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. State and local disposal regulations may differ from federal disposal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

UN Number: N.A.
UN Proper Shipping Name: N.A.
DOT (Department of Transportation Proper Shipping Name): Not regulated by DOT.
Packaging Group: N.A.
TDG Classification: Not Regulated
IMDG Classification: Not Regulated
IATA Classification: Passenger – Not Regulated
WHIMS (Canada): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by CPR.

SECTION 15 – REGULATORY INFORMATION

FEDERAL REGULATIONS:

TSCA INVENTORY STATUS: All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA TITTLE III SECTION 311/312 CATEGORY:

IMMEDIATE (ACUTE) HEALTH HAZARARD:	YES
DELAYED (CHRONIC) HEALTH HAZARD:	NO
FIRE HAZARD:	NO
SUDDEN RELEASE OF PRESSURE:	NO
REACTIVE HAZARD:	NO

SARA SECTIONS 302/304/313/HAP: NO

INTERNATIONAL CHEMICAL INVENTORY STATUS:

EUROPEAN UNION (EINECS)	YES
JAPAN (METI)	YES
AUSTRALIA (ACIS)	YES
KOREA (KECL)	YES
CANADA (DSL)	YES
CANADA (NDSL)	NO
PHILIPPINES	YES

STATES RIGHT TO KNOW: California, New Jersey, Pennsylvania, Minnesota, Massachusetts, and Wisconsin. Complies with listed States Right to Know Acts.

The following statement is made in order to comply with the California State Drinking Water Act. California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer and/or to cause birth defects and other reproductive harm.

SECTION 16 – OTHER INFORMATION

Precautions to be taken in Handling and Storing: Avoid exposure to excess heat, and prevent from freezing.

NFPA: 1, 0, 0. None

Total VOC (wt. %): 0% - does not include any CARB applicable exemptions (Volatile Organic Compounds)/California Air Resources board

CLR CHEMICAL FATE INFORMATION: 28-day biodegradation. The matter is readily biodegradable. OECD 301D

Other Precautions: None required.

SDS ABBREVIATIONS:

N. A.:	Not Applicable
N. D.:	Not Determined
N.E.:	Not Established
C:	Ceiling Limit
HAP:	Hazardous Air Pollutant
VOC:	Volatile Organic Compound

R. A. Gaudreault

Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, JELMAR offers no representations as to the completeness or accuracy thereof. Information is provided upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will JELMAR be responsible for damages of any nature whatsoever resulting from use of or reliance upon said information.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION HEREIN REFERS.

SAFETY DATA SHEET

1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name **CLR BATH & KITCHEN CLEANER**

Restrictions on Use: Incompatible with strong oxidizing agents, metals (except stainless steel, chrome), acids, bases, and bleach. Do not use on marble.

Product Use: Aqueous Acidic Cleaner for Removal of Calcium, Lime, and Soap Scrum from Bath & Kitchen Hard Surfaces Retail Package: (26 fl. oz.)

Manufacturer: **Jelmar, LLC**
Address: 5550 W. Touhy Ave.
Skokie, IL 60077 USA
1(847) 675-8400
Emergency Phone Number: 1(800) 323-5497 (USA) 8:30 A.M. – 4:30 P.M. CST Monday – Friday
Emergency 24 hour Contact: Chemtrec 1(800) 424-9300

2 – HAZARDS IDENTIFICATION

COMPLIES WITH 29CFR 1900.1200 DATED MAY 2012

WARNING

ACUTE EYE IRRITATION (Category 2A)
ACUTE DERMAL IRRATION (Category 3)

HAZARD NOT OTHERWISE CLASSIFIED ((HNOC)
Not applicable

OTHER INFORMATION
No information available

DO NOT get in eyes, on skin or clothing.
DO NOT mix with bleach or other household chemicals harmful; fumes may result.
DO NOT ingest.
DO NOT breathe vapor or mist. Use in well ventilated areas. Keep container closed when not in use.

KEEP OUT OF REACH OF CHILDREN

Hazard statement(s)

Causes eye irritation
May cause mild skin irritation.

Precautionary statement (s)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
Wash skin thorough after handling.
If skin irritation or rash occurs: Get medical advice/attention.
Do not eat, drink or smoke when handling this product.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
Avoid breathing fumes.

SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

Component	CAS#	OSHA HAZARD	% by Weight
1. Lactic Acid	79-33-4	YES	5.00-10.00
2. Lauramine Oxide	1643-20-5	YES	1.50-4.00

The exact percentages (concentration) of mixture has been withheld as a trade secret in accordance to paragraph (i) of §1910.1200.

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: In case of eye contact, immediately rinse eye thoroughly with plenty of water. Remove contact lenses, and continue rinsing for at least 15 minutes. If irritation persists, get medical attention.
SKIN CONTACT: Can be irritating to skin, prolonged contact can be more severe, no adverse effects during normal usage. In case of skin contact, rinse area for at least 15 minutes. Remove contaminated clothing and shoes, wash thoroughly before reuse. If irritation persists get medical attention.
INHALATION: Not a significant route of exposure. Remove to fresh air. If breathing is difficult, GET MEDICAL ATTENTION IMMEDIATELY.
INGESTION: DO NOT induce vomiting. If fully conscious, drink 16 ounces of water. CALL A PHYSCIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER give an unconscious person anything to ingest.

SECTION 5 – FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Not flammable. Use appropriate media for area. Use water spray, dry chemical, alcohol-resistant foam or carbon dioxide.
HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide. Thermal decomposition can lead to irritating gases and vapors.
FIRE FIGHTING METHODS: Evacuate area of personnel. Wear protective NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Run-off of large quantities of product from fire control may cause pollution. Contact appropriate agencies.
FIRE AND EXPLOSION HAZARDS: None known.

SECTION 6 – ACCIDENTAL RELEASES MEASURES

Steps to be taken in Case Material is Released or Spilled: Avoid contact with skin and eyes
Small Spill: No special clean-up procedure is necessary for small (less than 1 gallon) spills. Flush spill area with water. Wear rubber gloves.
Large Spill: Use personal protection recommended in Section 8. Isolate area, and deny entry to unnecessary and unprotected personnel. Dam spill, and absorb with earth, sand or similar material. Place

in non-leaking containers. Dispose of collected material according to local, state, and federal regulations. Flush residue with large amount of water. Avoid direct discharge to sewers and surface waters.

SECTION 7- HANDLING AND STORAGE

HANDLING and STORAGE: Avoid contact with eyes, skin or clothing. May be harmful or if swallowed. Use with adequate ventilation. Avoid breathing vapors or mist. Do not eat, drink, or smoke in work area. Wash hand thoroughly after use. Consumer size containers (26 fluid ounces), should be rinsed and recycled. Store in cool, well-ventilated area, away from heat. Keep containers tightly closed. Avoid contact with combustible materials, wood, and organic materials. Store in original container in a secure area away from children and pets.

DO NOT MIX WITH BLEACH, OR ANY OTHER PRODUCTS AS TOXIC FUMES MAY RESULT. KEEP OUT OF REACH OF CHILDREN.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:	OSHA		ACGIH	
COMPONENT	**PEL**	**STEL/C**	**TWA**	**STEL/C**
1. Lactic Acid	N.E	N.E.	N.E.	N.E.
2. Lauramine Oxide	N.E.	N.E.	N.E.	N.E.

VENTILATION REQUIREMENT: Avoid prolonged breathing mists or dusts of this product. Use with adequate ventilation. Do not use in closed or confined spaces.

RESPIRATORY PROTECTION: None required during normal household use.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of product.

EYE PROTECTION: Not required during normal household usage. Emergency responders should wear full eye and face protection.

SKIN PROTECTION: Rubber gloves with protective cuff. Emergency responders should wear impermeable gloves.

OTHER PROTECTION: Emergency responders should wear chemical type (impermeable) protective clothing and footwear where direct contact with chemicals in this product is possible.

WORK/HYGIENIC PRACTICES: Wash thoroughly with soap and water after use or handling.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Crystal clear, water white liquid		**Flammability:**	Not Flammable
Odor: Clean floral		**Upper/Lower Flammability**	N.A.
Odor Threshold:	N.D.	**Vapor Pressure:**	N.D
pH: @20ºC	2.40-2.70	**Vapor Density (mm Hg):**	N.D.
Melting Point:	N.D.	**Relative Density @20ºC:**	1.000 – 1.020
Freezing Point:	N.D	**Solubility in water**:	100%
Boiling Point:	99ºC / 210ºF	**Partition Coefficient;**	N.D.
Boiling Point Range:	N.A.	**n-octanol/water**	
Flash Point:	None	**Auto Ignition Temperature**:	N.A.
Evaporation Rate:	N.D	**Decomposition Temperature:**	N.A.
		Viscosity:	N.D.

SECTION 10 – STABILITY AND REACTIVITY

REACTIVITY: N.A.
CHEMICAL STABILITY: Stable under normal storage conditions.
POSSIBILITY OF HAZARDOUS REACTIONS: N. D.
CONDITIONS TO AVOID: Avoid elevated temperatures.
INCOMPATIBLE MATERIALS: Strong oxidizing agents, metals (except stainless steel and chrome), bleach, acids, and bases.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can lead to release of irritating gases, vapors and carbon oxides. In the event of fire: see Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Exposure	Eyes, Skin, Inhalation, Ingestion.
Eyes	Irritant: avoid eye contact. Effects may vary depending on length of exposure, solution concentration
Skin	Mild Irritant. Prolonged contact may cause dermatitis, and itching.
Inhalation	No adverse effects expected under typical use conditions.
Ingestion	Oral burns, vomiting, and gastrointestinal disturbance.

LD_{50} ACUTE EYE IRRITATION: GHS Category 2A
LD_{50} ACUTE DERMAL IRRATION - RABBITS: GHS Category 3
LD_{50} ACUTE ORAL TOXICITY – RATS: >5,000 mg/kg
LD_{50} ACUTE DERMAL TOXICITY - RABBITTS: >5,000 mg/kg
LD_{50} ACUTE INHALATION TOXICITY – RATS: Not toxic by inhalation.

This product does not contain any substances that are considered carcinogenic by the National Toxicology Program (NTP) Report on Carcinogens and have not been found to be potential carcinogens in the International Agency for Research on Cancer (IARC) Monographs or found to be potential carcinogens by OSHA.

Reproductive Toxicity: N.A.
Specific Target Organ Toxicity – Single Exposure N.A.
Specific Organ Toxicity – Repeated Dose: N. A.

SECTION 12- ECOLOGICAL INFORMATION

LACTIC ACID:

Ecotoxicity

EC50/48h/Daphnia = 240mg/l LC50/48h/Fish = 320 mg/l
EC50/Algae = 3500 mg/l(neutral) No data available.

Persistence / degradability
Readily biodegradable, according to appropriate OECD test.

Biochemical oxygen demand (BOD)5 = 0.45 mg O2 /mg
Biochemical oxygen demand (BOD)20= 0.60 mg O2/mg
Chemical oxygen demand (COD) =0.90 mg O2 /mg

Bioaccumulation: None.

LAURAMINE OXIDE:

Ecotoxicity

Acute Aquatic Toxicity
Reviewed Category ≤1 mg/L
Algae IC_{50} 0.01 mg/L
Invertebrate EC_{50} 1.01 mg/L
Fish LC_{50} 2.6 mg/L

Persistence / degradabilityy

Biodegradation: % degraded in 28 days ≥60% ThOD/ThCO2 (≥70% DOC)

DIPROPYLENE GLYCOL n-Butyl ETYHER:

Ecotoxicity

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Fish Acute & Prolonged Toxicity
LC50, guppy (Poecilia reticulata), static, 96 h: 841 mg/l
Aquatic Invertebrate Acute Toxicity
LC50, water flea Daphnia magna, static, 48 h, immobilization: > 1,000 mg/l

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).
Henry's Law Constant (H): 3.78E-07 atm*m3/mole; 25 °C Estimated.
Partition coefficient, n-octanol/water (log Pow): 1.13 Estimated.
Partition coefficient, soil organic carbon/water (Koc): 10 - 21 Estimated.
Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
Indirect Photodegradation with OH Radicals
Rate Constant Atmospheric Half-life Method
4.97E-11 cm3/s 2.6 h Estimated.

OECD Biodegradation Tests:
Biodegradation Exposure Time Method

91 % 28 d OECD 301E Test
96 % 28 d OECD 302B Test
Theoretical Oxygen Demand: 2.35 mg/mg

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Rinse empty bottles and recycle. Dispose of unused product in a permitted hazardous waste management facility following all local, state, and federal regulations.
Follow label warnings, since containers may retain some reside of the product. Processing, use or contamination of this product may change the waste management options. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. State and local disposal regulations may differ from federal disposal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

UN Number: N.A.
UN Proper Shipping Name: N.A.
DOT (Department of Transportation Proper Shipping Name): Not regulated by DOT.
Packaging Group: N.A.
TDG Classification: Not Regulated
IMDG Classification: Not Regulated
IATA Classification: Passenger – Not Regulated
WHIMS (Canada): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by CPR.

SECTION 15 – REGULATORY INFORMATION

FEDERAL REGULATIONS:
TSCA INVENTORY STATUS: All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA TITTLE III SECTION 311/312 CATEGORY:

IMMEDIATE (ACUTE) HEALTH HAZARARD:	YES
DELAYED (CHRONIC) HEALTH HAZARD:	NO
FIRE HAZARD:	NO
SUDDEN RELEASE OF PRESSURE:	NO
REACTIVE HAZARD:	NO

SARA SECTIONS 302/304/313/HAP: NO

INTERNATIONAL CHEMICAL INVENTORY STATUS:

EUROPEAN UNION (EINECS)	YES
JAPAN (METI)	YES
AUSTRALIA (ACIS)	YES
KOREA (KECL)	YES
CANADA (DSL)	YES
CANADA (NDSL)	NO
PHILIPPINES	YES

STATES RIGHT TO KNOW: California, New Jersey, Pennsylvania, Minnesota, Massachusetts, and Wisconsin. Complies with listed States Right to Know Acts.

The following statement is made in order to comply with the California State Drinking Water Act. California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer and/or to cause birth defects and other reproductive harm.

SECTION 16 – OTHER INFORMATION

Precautions to be taken in Handling and Storing: Avoid exposure to excess heat, and prevent from freezing.

NFPA: 1, 0, 0. None

Total VOC (wt. %): 0% - does not include any CARB applicable exemptions (Volatile Organic Compounds)/California Air Resources board

CLR CHEMICAL FATE INFORMATION: 28-day biodegradation. The matter is readily biodegradable. OECD 301D

Other Precautions: None required.

SDS ABBREVIATIONS:

N. A.:	Not Applicable
N. D.:	Not Determined
N.E.:	Not Established
C:	Ceiling Limit
HAP:	Hazardous Air Pollutant
VOC:	Volatile Organic Compound

Revision: GHS Format **R. A. Gaudreault**

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SAFETY DATA SHEET

Issuing Date: 18-Jun-2015 **Revision Date:** 18-Jun-2015 **Version** 1

1. IDENTIFICATION

Product Name	Comet® Cleaner with Bleach – Concentrate
Product Code(s)	3-30
Product ID:	15154199_A_PROF_NG
Product Type:	Finished Product - Professional Use Only
Recommended Use	Hard Surface Cleaner
Restrictions on Use	Do not mix with other cleaning products or chemicals as irritating fumes may be formed.
Manufacturer	Procter & Gamble Professional 2 P&G Plaza Cincinnati, Ohio 45202 Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-332-7787
E-mail Address	pgsds.im@pg.com
Emergency Telephone	Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531

2. HAZARD IDENTIFICATION

This product is classifed under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

Hazard Category	
Eye Damage / Irritation	Category 2B
Corrosive to metals	Category 1

Signal Word WARNING

Hazard Statements

Causes eye irritation
May be corrosive to metals

Hazard pictograms

Precautionary Statements - Prevention	Wash hands thoroughly after handling Keep only in original container Do not mix with other cleaning products or chemicals as irritating fumes may be formed
Precautionary Statements - Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention IF SWALLOWED: Drink 1 or 2 glasses of water Absorb spillage to prevent material damage
Precautionary Statements - Storage	Store in corrosive resistant container
Precautionary Statements - Disposal	Dispose of contents/container in accordance with local regulation
Hazards not otherwise classified (HNOC)	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

Chemical Name	Synonyms	Trade Secret	CAS-No	Weight %
Sulfuric acid, monooctyl ester, sodium salt (1:1)	-	No	142-31-4	1 - 5
Sulfuric acid monododecyl ester sodium salt (1:1)	-	No	151-21-3	1 - 5
Sodium hypochlorite	-	No	7681-52-9	1 - 5

4. FIRST AID MEASURES

First aid measures for different exposure routes

Eye contact	Rinse with plenty of water. Get medical attention immediately if irritation persists.
Skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Ingestion	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Most important symptoms/effects, acute and delayed	None under normal use conditions.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, CO_2, alcohol-resistant foam or water spray.
Unsuitable Extinguishing Media	None.

Special hazard	None known.
Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific hazards arising from the chemical	None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Do not get in eyes, on skin, or on clothing.
Advice for emergency responders	Use personal protective equipment as required.

Methods and materials for containment and cleaning up

Methods for containment	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in corrosive resistant container.
Incompatible products	Do not mix with other cleaning products or chemicals as irritating fumes may be formed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	No exposure limits noted for ingredient(s).

Exposure controls

Engineering Measures	**Distribution, Workplace and Household Settings:** Ensure adequate ventilation **Product Manufacturing Plant (needed at Product-Producing Plant ONLY):** Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction

Personal Protective Equipment

Eye Protection	**Distribution, Workplace and Household Settings:**

No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Use appropriate eye protection

Hand Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Protective gloves

Skin and Body Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Wear suitable protective clothing

Respiratory Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
In case of insufficient ventilation wear suitable respiratory equipment

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	liquid
Appearance	clear
Odor	Scented
Odor threshold	No information available

Property	Values	Note
pH value	12.6 - 13.4	
Melting/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash point	> 93.3 °C / > 200 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limit	No information available	
Lower Flammability Limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	1.045	
Water solubility	100%	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	.
Decomposition temperature	No information available	.
Viscosity of Product	< 10 cps	
Oxidizing properties	These substances will accelerate burning when involved in a fire.	
VOC Content (%)	Products comply with US state and federal regulations for VOC content in consumer products.	

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions.

Stability Stable under normal conditions.

Hazardous polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

Conditions to Avoid None under normal processing.

Materials to avoid Do not mix with other cleaning products or chemicals as irritating fumes may be formed.

Hazardous Decomposition Products None under normal use.

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

Inhalation No known effect.
Skin contact No known effect.
Ingestion No known effect.
Eye contact Irritating to eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity No known effect.
Skin corrosion/irritation No known effect.
Serious eye damage/eye irritation Irritating to eyes.
Skin sensitization No known effect.
Respiratory sensitization No known effect.
Germ cell mutagenicity No known effect.
Neurological Effects No known effect.
Reproductive toxicity No known effect.
Developmental toxicity No known effect.
Teratogenicity No known effect.
STOT - single exposure No known effect.
STOT - repeated exposure No known effect.
Target Organ Effects No known effect.
Aspiration hazard No known effect.
Carcinogenicity No known effect.

Component Information

Chemical Name	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid monododecyl ester sodium salt (1:1)	151-21-3	977 mg/kg bw (OECD 401)	> 2000 mg/kg bw (OECD 402)	-
Sodium hypochlorite	7681-52-9	-	> 20000 mg/kg bw (//OECD 402)	> 10.5 mg/L air (//OECD 403)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste from Residues / Unused Products	Products covered by this SDS, in their original form, when disposed as waste, are corrosive hazardous waste, D002, according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.
California Hazardous Waste Codes (non-household setting)	331

14. TRANSPORT INFORMATION

DOT

UN no	UN1760
UN Proper shipping name	Corrosive liquids, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s, (sodium hydroxide, sodium hypochlorite), 8,III , Ltd. Qty.
Hazard Class	8
Packing Group	III

IMDG

UN Number	UN1760
UN Proper shipping name	Corrosive liquid, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s , (sodium hydroxide, sodium hypochlorite), 8, III, MARINE POLLUTANT , Ltd. Qty.
Transport hazard class(es)	8
Packing Group	III

IATA

UN no	UN1760
UN Proper shipping name	Corrosive liquid, n.o.s.
Description	UN1760, Corrosive liquid, n.o.s, (sodium hydroxide, sodium hypochlorite), 8,III , Ltd. Qty.
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	CAS-No	Hazardous Substances RQs	Extremely Hazardous Substances RQs	CERCLA/SARA 302 TPQ
Sodium hypochlorite	7681-52-9	100 lb	-	
Sodium hydroxide	1310-73-2	1000 lb	-	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CAS-No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite	7681-52-9	100 lb	-	-	X
Sodium hydroxide	1310-73-2	1000 lb	-	-	X

California Proposition 65
This product is not subject to warning labeling under California Proposition 65.

U.S. State Regulations (RTK)

Chemical Name	CAS-No	New Jersey
Sodium hypochlorite	7681-52-9	X

Chemical Name	CAS-No	Massachusetts
Sodium hypochlorite	7681-52-9	X

Chemical Name	CAS-No	Pennsylvania
Sodium hypochlorite	7681-52-9	X
Sodium hydroxide	1310-73-2	X

Chemical Name	CAS-No	Rhode Island
Sodium hypochlorite	7681-52-9	X

International Inventories

United States
All intentionally-added components of this product(s) are listed on the US TSCA Inventory.

Canada
This product is in compliance with CEPA for import by P&G.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act

16. OTHER INFORMATION

HMIS Ratings
Health hazard 2
Flammability 1
Physical hazard 0

NFPA Ratings
Health hazard 2
Flammability 1
Instability 0

Issuing Date: 18-Jun-2015
Revision Date: 18-Jun-2015
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Safety Data Sheet

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Compressor OIL EP VDL 46

Product Number(s): 024439

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified Uses: Compressor Oil

1.3 Details of the supplier of the safety data sheet
Chevron Products UK Limited
1 Westferry Circus
Canary Wharf
London E14 4HA
United Kingdom
email : eumsds@chevron.com

1.4 Emergency telephone number
Transportation Emergency Response
Europe: 0044/(0)18 65 407333
Health Emergency
Europe: 0044/(0)18 65 407333
Product Information
Product Information: FAX number: 0044/20 77 19 5171

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLP CLASSIFICATION: Not classified as dangerous according to EU regulatory guidelines.

2.2 Label elements
Under the criteria of Regulation (EC) No 1272/2008 (CLP):
Not classified

2.3 Other hazards Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

3.2 Mixtures
This material is a mixture.

COMPONENTS	CAS NUMBER	EC NUMBER	REGISTRATION NUMBER	CLP CLASSIFICATION	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	*	***	None	60 - 100 %weight

*Contains one or more of the following EINECS numbers: 265-090-8, 265-091-3, 265-096-0, 265-097-6, 265-098-1, 265-101-6, 265-155-0, 265-156-6, 265-157-1, 265-158-7, 265-159-2, 265-160-8, 265-161-3, 265-166-0, 265-169-7, 265-176-5, 276-735-8, 276-736-3, 276-737-9, 276-738-4, 278-012-2.
*** Contains one or more of the following REACH registration numbers: 01-2119488706-23, 01-2119487067-30, 01-2119487081-40, 01-2119483621-38, 01-2119480374-36, 01-2119488707-21, 01-2119467170-45, 01-2119480375-34, 01-2119484627-25, 01-2119480132-48, 01-2119487077-29, 01-2119489287-22, 01-2119480472-38, 01-2119471299-27, 01-2119485040-48, 01-2119555262-43, 01-2119495601-36, 01-2119474889-13, 01-2119474878-16.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

4.2 Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to be harmful. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

4.3 Indication of any immediate medical attention and special treatment needed
Not applicable.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

5.2 Special hazards arising from the substance or mixture
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

5.3 Advice for firefighters
This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Eliminate all sources of ignition in vicinity of spilled material. Refer to Sections 5 and 8 for more information.

6.2 Environmental precautions
Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

6.3 Methods and material for containment and cleaning up
Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil and dispose of in a manner consistent with applicable requirements. Place other contaminated materials in disposable containers and dispose of in a manner consistent with applicable requirements. Report spills to local authorities as appropriate or required.

6.4 Reference to other sections
See sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid,

and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

7.2 Conditions for safe storage, including any incompatibilities
Not Applicable

7.3 Specific end use(s): Compressor Oil

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

8.1 Control parameters
Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	United Kingdom	5 mg/m3	10 mg/m3	--	--

Consult local authorities for appropriate values.

8.2 Exposure controls
ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber.
Respiratory Protection: No respiratory protection is normally required. No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

ENVIRONMENTAL EXPOSURE CONTROLS:
See relevant Community environmental protection legislation or the Annex, as applicable.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

9.1 Information on basic physical and chemical properties
Appearance
Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Melting Point: No data available
Freezing Point: No data available
Initial Boiling Point: No data available
Flashpoint: 248 °C (478 °F) (Typical)
Evaporation Rate: No data available
Flammability (solid, gas): No Data Available
Flammability (Explosive) Limits (% by volume in air):
Lower: Not Applicable Upper: Not Applicable
Vapor Pressure: <0.01 @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Solubility: Soluble in hydrocarbons; insoluble in water
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: >41.4 mm2/s @ 40°C (104°F) (Typical)
Explosive Properties: No Data Available
Oxidising properties: No Data Available

9.2 Other Information: No Data Available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
10.2 Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
10.3 Possibility of hazardous reactions: Hazardous polymerization will not occur.
10.4 Conditions to Avoid: Not applicable
10.5 Incompatible materials to avoid: Not applicable
10.6 Hazardous decomposition products: None known (None expected)

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate (oral): Not Applicable

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

Aspiration Toxicity: No data available

ADDITIONAL TOXICOLOGY INFORMATION:
In accordance with the Directive 94/69/EC (21st ATP to DSD), Nota L, reference IP 346/92: "DMSO Extraction Method", we have determined that the base oils used in this preparation are not carcinogenic.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity
This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

12.2 Persistence and degradability
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

12.3 Bioaccumulative potential
Bioconcentration Factor: No Data Available
Octanol/Water Partition Coefficient: No data available

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
This product is not, or does not contain, a substance that is a potential PBT or a vPvB.

12.6 Other adverse effects
No other adverse effects identified.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.
In accordance with European Waste Catalogue (E.W.C.) the codification is the following: 13 02 05

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

ADR/RID

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable

ICAO

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable

IMO

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT
14.1 UN number: Not applicable
14.2 UN proper shipping name: Not applicable
14.3 Transport hazard class(es): Not applicable
14.4 Packing group: Not applicable
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user: Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REGULATORY LISTS SEARCHED:
01=EU. Directive 76/769/EEC: Restrictions on the marketing and use of certain dangerous substances.
02=EU Directive 90/394/EEC: Carcinogens at work.

03=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.
04=EU Directive 96/82/EC (Seveso II): Article 9.
05=EU Directive 96/82/EC (Seveso II): Articles 6 and 7.
06=EU Directive 98/24/EC: Chemical agents at work.
07=EU Directive 2004/37/EC: On the protection of workers.
08=EU Regulation EC No. 689/2008: Annex 1, Part 1.
09=EU Regulation EC No. 689/2008: Annex 1, Part 2.
10=EU Regulation EC No. 689/2008: Annex 1, Part 3.
11=EU Regulation EC No. 850/2004: Prohibiting and restricting persistant organic pollutants (POPs).
12=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.
13=EU REACH, Annex XIV: Candidate List of Substances of Very High Concern for Authorization (SVHC).

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

15.2 Chemical safety assessment
No chemical safety assessment.

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: MARCH 17, 2015

Full text of CLP H-statements:
None

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
CVX - Chevron	CAS - Chemical Abstract Service Number
NQ - Not Quantifiable	

Prepared according to the criteria of EU Regulation 1907/2006 by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No Annex

Material Safety Data Sheet

An RPM Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center
Transportation/National Response Center:
1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name: Concrete Bonding Additive
Product UPC Number: 070798021310, 070798021327
Product Use/Class: Concrete Adhesive
Manufacturer: **DAP Products Inc.**
2400 Boston Street Suite 200
Baltimore, MD 21224-4723
888-327-8477 (non-emergency matters)

Revision Date: 12/05/2013
Supersedes: 12/29/2011
MSDS Number: 00040005001

Section 2 - Hazards Identification

Emergency Overview: A(n) opaque liquid product with a slight odor. WARNING! May cause eye, skin, nose, throat and respiratory tract irritation.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation. Signs and symptoms may include: pain, tears, swelling, redness and blurred vision.

Effects Of Overexposure - Skin Contact: May cause skin irritation.

Effects Of Overexposure - Inhalation: Vapors may be irritating to eyes, nose, throat, and lungs.

Effects Of Overexposure - Ingestion: Harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause irritation of eyes and skin.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Carcinogenicity:

None

Section 3 - Composition / Information On Ingredients

Does not contain hazardous ingredients per OSHA's Hazard Communication Standard.

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: Wash off with soap and water.

First Aid - Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

Note to Physician: None.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: None known.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Dike to prevent entering any sewer or waterway.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! Use in well ventilated area. Provide fresh air such that chemical odors cannot be detected during use and while drying. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Construction and repair activities can adversely affect indoor air quality. Consult with occupants or a representative (i.e. maintenance, building manager, industrial hygienist, or safety officer) to determine ways to minimize impact.

Storage: Avoid excessive heat and freezing. Keep containers closed when not in use. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Does not contain hazardous ingredients per OSHA's Hazard Communication Standard.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work

practices.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: While mixing, provide sufficient mechanical ventilation (local or general exhaust) to maintain exposure below PEL and TLV. If dry-sanding, provide sufficient mechanical ventilation to maintain exposure below PEL and TLV.

Respiratory Protection: If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. No personal respiratory protective equipment normally required.

Skin Protection: Wear gloves with repeated or prolonged use.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash contaminated clothing before re-use.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	**Vapor Density:**	Heavier Than Air
Odor:	Slight	**Odor Threshold:**	Not Established
Color:	Opaque	**Evaporation Rate:**	Slower Than n-Butyl Acetate
Solubility in H2O:	Not Established	**Specific Gravity:**	1.05 - 1.05
Freeze Point:	Not Established	**pH:**	Between 7.0 and 12.0
Vapor Pressure:	Not Established	**Viscosity:**	Not Established
Physical State:	Liquid	**Flammability:**	Non-Flammable
Flash Point, F:	Greater than 200	**Method:**	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Determined	**Upper Explosive Limit, %:**	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under normal conditions.

Section 11 - Toxicological Information

Product LD50: Not Established

Product LC50: Not Established

No toxicological information is available.

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste. Liquids cannot be disposed of in a landfill. Do not re-use empty containers.

EPA Waste Code if Discarded (40 CFR Section 261): None.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated.	**Packing Group:**	N.A.
DOT Technical Name:	N.A.	**Hazard Subclass:**	N.A.
DOT Hazard Class:	N.A.	**DOT UN/NA Number:**	N.A.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Vinyl acetate	108-05-4

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

HMIS Ratings:

Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 14 lb/gal: 0.1 wt:wt%: 0.4

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 0.4

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable
N.E. – Not Established
N.D. – Not Determined
VOC – Volatile Organic Compound
PEL – Permissible Exposure Limit
TLV – Threshold Limit Value
CEIL – Ceiling Exposure Limit
LD50 – Lethal Dose 50
F – Degree Fahrenheit
C – Degree Celsius

ACGIH – American Conference of Governmental Industrial Hygienists
SARA – Superfund Amendments and Reauthorization Act of 1986
NJRTK – New Jersey Right-to-Know Law
OSHA – Occupational Safety and Health Administration
HMIS – Hazardous Materials Identification System
NTP – National Toxicology Program
STEL – Short Term Exposure Limit
LC50 – Lethal Concentration 50
MSDS – Material Safety Data Sheet
CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

There was a PDF conversion failure for -

Product Name: CORNERSTONE PLUS
CAS Number:
Manufacturer: WINFIELD SOLUTIONS, LLC
SDS Date: 5/4/2016

To complete your binder, please link a different SDS for this product or print the SDS manually from

http://www.msdsonline.com/Legacy/Partners/Show-Document/Default.aspx?ShowId=W6aSOml4v38%3d

and add to your binder. We are currently researching solutions to this issue. Thank you for your patience.

SAFETY DATA SHEET

Date of issue/Date of revision 14 April 2016
Version 5.01

Section 1. Identification

Product name : CRE PRIMER CATALYST
Product code : CRE-211H
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. **1-component mixtures:** formaldehyde is released during curing. Formaldehyde may cause irreversible effects, is irritating to the mucous membranes and may cause skin sensitization. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : CRE PRIMER CATALYST

Ingredient name	%	CAS number
Isopropyl alcohol	≥5.0 - ≤10	67-63-0
bisphenol A	≥10 - ≤15	80-05-7
toluene	≥5.0 - ≤9.9	108-88-3
m-phenylenebis(methylamine)	≥5.0 - ≤7.9	1477-55-0

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Section 5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Isopropyl alcohol	**ACGIH TLV (United States, 3/2015).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours.
bisphenol A	**IPEL (PPG).** STEL: 5 mg/m³
toluene	**OSHA PEL Z2 (United States, 2/2013).** AMP: 500 ppm 10 minutes. CEIL: 300 ppm

Section 8. Exposure controls/personal protection

	TWA: 200 ppm 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **ACGIH TLV (United States, 3/2015).** **Absorbed through skin.** C: 0.1 mg/m³
m-phenylenebis(methylamine)	

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : nitrile neoprene

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 15°C (59°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.5%

Evaporation rate : 2.7 (butyl acetate = 1)

Vapor pressure : 3.9 kPa (29.5 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.02

Density (lbs / gal) : 8.51

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 25% (v/v), 20% (w/w)

% Solid. (w/w) : 80

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isopropyl alcohol	LC50 Inhalation Vapor	Rat	72600 mg/m³	4 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	4.396 g/kg	-
bisphenol A	LD50 Dermal	Rabbit	3 g/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LC50 Inhalation Vapor	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LD50 Oral	Rat	636 mg/kg	-
m-phenylenebis (methylamine)	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LD50 Dermal	Rabbit	2 g/kg	-
	LD50 Oral	Rat	930 mg/kg	-

Conclusion/Summary : **proprietary polymer**: ORAL (LD50) >2000 mg/kg. There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Section 11. Toxicological information

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
Isopropyl alcohol	-	3	-
toluene	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Isopropyl alcohol	Category 3
bisphenol A	Category 3
toluene	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
toluene	Category 2

Target organs : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, heart, spleen, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Name	Result
toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. **1-component mixtures:** formaldehyde is released during curing. Formaldehyde may cause irreversible effects, is irritating to the mucous membranes and may cause skin sensitization. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

Section 11. Toxicological information

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3169.5 mg/kg
Dermal	17142.9 mg/kg
Inhalation (gases)	90000 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
bisphenol A	Acute EC50 20.5 mg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Chronic EC10 3.47 mg/l Marine water	Algae - Cochlodinium polykrikoides - Exponential growth phase	72 hours
	Chronic NOEC 0.86 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Isopropyl alcohol	0.05	-	low
bisphenol A	3.32	43.65	low
toluene	2.73	8.32	low
m-phenylenebis(methylamine)	0.18	2.69	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN3469	UN3469	UN3469
UN proper shipping name	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE
Transport hazard class (es)	3 (8)	3 (8)	3 (8)
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	10101	Not applicable.	Not applicable.
RQ substances	(toluene)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14. Transport information

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Isopropyl alcohol	Yes.	No.	No.	Yes.	No.
bisphenol A	Yes.	No.	No.	Yes.	Yes.
toluene	Yes.	No.	No.	Yes.	Yes.
m-phenylenebis(methylamine)	No.	No.	No.	Yes.	No.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
Isopropyl alcohol	67-63-0	5 - 10
bisphenol A	80-05-7	5 - 10
toluene	108-88-3	5 - 10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability :** 3 **Physical hazards :** 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Section 16. Other information

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 0

Date of previous issue : **4/5/2016**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

— Section 1 —
Product Identification

MARTIN SENOUR PAINTS®
Automotive Finishes

Material Safety Data Sheet

Martin Senour Paints
4440 Warrensville Center Road
Warrensville Hts., OH 44128-2837

Emergency telephone number (216) 566-2917
Information telephone number (216) 566-2902
Date of preparation April 8, 2003

CROSSFIRE® 1K Enamel System

CF-1K/N

CAS No.	— Section 2 — Hazardous Ingredients (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	LD50 (Rat-Oral) mg/kg	LC50 (Rat) ppm/4hr.	Vapor Pressure mm	Non-Lead Colors 49-LF (Pb)	Lead-Containing 49-LL (Pb)
64742-88-7	Mineral Spirits	100	100	ppm	NAv	NAv	2.0	0 - 2	0 - 2
108-88-3 §	Toluene	50	100 <150>	ppm (skin)	5000	4000	22.0	5 - 10	5 - 10
100-41-4 §	Ethylbenzene	100 <125>	100 <125>	ppm	3500	NAv	7.1	4 - 9	4 - 9
1330-20-7 §	Xylene	100 <150>	100 <150>	ppm	4300	5000	5.9	20 - 30	20 - 30
111-76-2 §	2-Butoxyethanol	20	20	ppm (skin)	470	NAv	0.9	1 - 2	1 - 2
67-64-1	Acetone	500 <750>	1000	ppm	5800	NAv	180.0	2	2
123-86-4	n-Butyl Acetate	150 <200>	150 <200>	ppm	13100	2000	10.0	1 - 5	1 - 5
112-07-2 §	2-Butoxyethyl Acetate	NAv	NAv		2400	NAv	1.0	0 - 2	0 - 2
136-52-7	Cobalt 2-Ethylhexanoate	NAv	NAv		NAv	NAv		0.1 - 0.2	0.1 - 0.2
13463-67-7	Titanium Dioxide	10	10[5]	mg/m3 as Dust [Resp. Fraction]	NAv	NAv		0 - 11	0 - 11
1333-86-4	Carbon Black	3.5	3.5	mg/m3	NAv	NAv		0 - 1	0 - 1
8007-18-9	Nickel Antimony Titanate	0.5	0.5	mg/m3	500	NAv		0 - 4	0 - 4
1344-37-2 12656-85-8	Lead Chromate Molybdate Orange	0.05	0.05	mg/m3	NAv	NAv			<10
§	Chromium VI Compound [% Cr] - maximum								10 [1.5]
§	Lead Compound [% Pb] - maximum								10 [6.0
§	Cobalt Compound [% Co]							0.2 [0.03]	0.2 [0.03]
§	Antimony Compound [% Sb]							4 [0.4]	4 [0.4]
§	Nickel Compound [% Ni]							4 [0.1]	4 [0.1]
	Weight per Gallon (lbs.)							8 - 10	8 - 11
	VOC (Volatile Organic Compounds) Emitted - lbs./gal.							3.7 - 4.5	3.7 - 4.5
	VOC Less Water & Federally Exempt Solvents - lbs./gal.							3.7 - 4.5	3.7 - 4.5
	Photochemically Reactive							Yes	Yes
	Flash Point (°F)							35 - 40	35 - 40
	HMIS (NFPA) Rating (health - flammability - reactivity)							2* - 3 - 0	2* -3 - 0

PERCENT BY WEIGHT

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

Section 3 — Hazards Identification

ROUTES OF EXPOSURE - Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

EFFECTS OF OVEREXPOSURE - Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Certain colors contain Lead. Acute occupational exposure to Lead is uncommon, but results in effects and symptoms similar to chronic overexposure described below.

SIGNS AND SYMPTOMS OF OVEREXPOSURE - Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE - None generally recognized.

CANCER INFORMATION - For complete discussion of toxicology data refer to Section 11.

Section 4 — First Aid Measures

If INHALED:	If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN:	Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
If in EYES:	Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED:	Do not induce vomiting. Get medical attention immediately.

Section 5 — Fire Fighting Measures

FLAMMABILITY CLASSIFICATION - RED LABEL -- Flammable, Flash below 100 °F

FLASH POINT - See TABLE *LEL* 0.5 *UEL* 12.8

EXTINGUISHING MEDIA - Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS - Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES - Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up & possible autoignition/explosion when exposed to extreme heat.

Section 6 — Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Remove all sources of ignition. Ventilate the area. Remove with inert absorbent.

Section 7 — Handling and Storage

STORAGE CATEGORY - DOL Storage Class IB

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Contents are FLAMMABLE. Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures. Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 8 — Exposure Controls/Personal Protection

PRECAUTIONS TO BE TAKEN IN USE - Certain colors contain Lead (see product label). Before initial use of lead-containing colors, consult OSHA's Standard for Occupational Exposure to Lead (29 CFR 1910.1025).

Use all products only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using.

These coatings may contain materials classified as nuisance particulates (listed “as Dust” in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), 3 mg./m3 (respirable fraction), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).

VENTILATION - Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94,1910.107, 1910.108.

RESPIRATORY PROTECTION -

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding, wirebrushing, abrading, burning or welding the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section 2.

PROTECTIVE GLOVES - Wear gloves recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION - Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS - Certain colors contain Lead (see product label). Do not apply on toys and other children's articles, furniture, or any interior surface of a dwelling or facility which may be occupied or used by children. Do not apply on any exterior surface of dwelling units, such as window sills, porches, stairs, or railings to which children may be commonly exposed.

All products may be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 — Physical and Chemical Properties

PRODUCT WEIGHT	See TABLE	EVAPORATION RATE	Slower than ether
SPECIFIC GRAVITY	0.96-1.32	VAPOR DENSITY	Heavier than air
BOILING POINT	132 - 395 °F	MELTING POINT	Not Available
VOLATILE VOLUME	55 - 65 %	SOLUBILITY IN WATER	Not Available

Section 10 — Stability and Reactivity

STABILITY - Stable

CONDITIONS TO AVOID - None known.

INCOMPATIBILITY

Metallics may contain aluminum. Contamination with Water, Acids, or Alkalis can cause evolution of hydrogen, which may result in dangerously increased pressures in closed containers.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide & Monoxide, Oxides of Metals in Section 2

HAZARDOUS POLYMERIZATION - Will not occur

Section 11 — Toxicological Information

CHRONIC Health Hazards

Certain colors contain Lead (see product label). Chronic overexposure to Lead may result in damage to the blood-forming, nervous, urinary, and reproductive systems (including embryotoxic effects).
Symptoms include abdominal discomfort or pain, constipation, loss of appetite, metallic taste, nausea, insomnia, nervous irritability, weakness, muscle and joint pains, headache and dizziness.

Chromates are listed by IARC and NTP. Although studies have associated exposure to Chromium VI compounds with an increased risk of respiratory cancer, available evidence indicates that Lead Chromate (Chrome Yellow, Molybdate Orange) DOES NOT present this hazard.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans(2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

Limited evidence exists linking certain Nickel compounds to cancer in animals and possibly humans, however no direct evidence exists that Nickel Antimony Titanate is carcinogenic.

Cobalt and cobalt compounds are classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is inadequate evidence in humans for its carcinogenicity.

Prolonged overexposure to solvent ingredients in the following products may cause adverse effects to the liver, urinary, blood forming, cardiovascular and reproductive systems.

Reports have linked repeated & prolonged solvent overexposure with permanent brain/nervous system damage.

Section 12 — Ecological Information - No data available.

Section 13 — Disposal Considerations

WASTE DISPOSAL METHOD

Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from lead or chromium containing products must also be tested for extractability. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 — Transport Information - No data available.

Section 15 — Regulatory Information

CALIFORNIA PROPOSITION 65 - WARNING: These products contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION - All chemicals in these products are listed, or exempt from listing, on the TSCA Inventory.

Section 16 — Other Information

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Crystal Simple Green® Industrial Cleaner & Degreaser

SAFETY DATA SHEET in accordance with REGULATION (EC) No 1907/2006 & (EU) No 2015/282

1 IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Product Identifier: Crystal Simple Green® Industrial Cleaner & Degreaser
Manufacturer Numbers: Please see Section 16

Relevant identified uses of mixture: Cleaning/Degreasing agent for all rinsable surfaces.
Relevant identified uses advised against: Surfaces not tolerate to degreasing agents, non-rinsable surfaces.

Company:	Sunshine Makers Inc. 15922 Pacific Coast Highway Huntington Beach, California 92649 USA	SIMPLE GREEEN France 58, avenue de Wagram 75017 PARIS Tel : 01 46 94 69 90
Telephone:	+1 562 795 6000 (M-F, PST, 8am – 5pm)	+33 1 48 90 6699 (M-F, PST, 8am – 5pm)
Fax:	+1 562 592 3034	+33 09 81 40 83 67
Email:	info@simplegreen.com	

Emergency Telephone: Chem Tel (24 hr, International) - +1-813-248-0585

2 HAZARDS IDENTIFICATION

Classification according to Regulation (EC) No 1272/2008 [CLP] : Eye Irritant 2

Label Elements

Hazard Pictograms:

Signal Word: Warning.
Hazard Statements: H319: Causes serious eye irritation
Precautionary Statements: P280: Wear eye protection.
P264: Wash hands thoroughly after handling.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.

Supplemental Hazard Information: Not applicable

Other Hazards: None known.

3 COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	EC No.	CLP Annex VI Index No.	REACH No.	% weight	Name	Classification According to (EC) No 1272/2008 (CLP)
68439-46-3	614-482-0	-	exempt	1 - 5%	C9-11 Ethoxylated Alcohol	Eye Dam. 1 - H318
68-04-2	200-75-3	-	01-2119457027-40	1 - 5%	Sodium Citrate	Not classified
51981-21-6	257-573-7	-	01-2119493601-38	1 - 5%	Tetrasodium N,N-bis(carboxymethyl)-L-glutamate	Not classified
497-19-8	207-838-8	-	01-2119485498-19	1 - 5%	Sodium Carbonate	Eye Irrit. 2 - H319
77-92-9	201-069-1	-	01-2119457026-42	0,1 – 1%	Citric Acid	Not Classified

For full text of H statements and symbols see section 16

4 FIRST AID MEASURES

General Notes: Dilution of concentrate to 20% reduces possibility of eye irritation.

Following Inhalation: Move to fresh air in case of inhalation overexposure. If coughing or irritation persists consult a physician.
Following Skin Contact: Wash with water. If redness, swelling or persistent irritation occurs consult a physician.
Following Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

4 FIRST AID MEASURES - continued

Following Ingestion: Clean mouth with water. Drink plenty of water. Do not induce vomiting. If you feel unwell seek medical advice immediately.

Self-protection of the first aider: Treat Symptomatically.

Acute effects: None known or expected.

Delayed effects: None known or expected.

Immediate medical attention / special treatment: None needed.

5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use dry chemical, CO2, water spray or “alcohol” foam.

Unsuitable Extinguishing Media: High volume water Jet.

Hazardous combustion products: No hazards or reactions expected.

Advice for firefighters: No special equipment needed for this product. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6 ACCIDENTAL RELEASE MEASURES

Non-Emergency Personal

Protective Equipment: Use protective goggles.

Emergency Procedures: For small and large spills, wipe with absorbent material or soak with absorbent material and dispose of properly – see section 13

Emergency Responders: See instructions above.

Environmental Precautions: Do not allow into open waterways and ground water systems. Local authorities should be advised if significant spillages cannot be contained.

Methods for containment: Dike or divert spill from access to open waterways, or capping of drains.

Methods for cleaning up: Soak up with inert absorbent material (i.e. sand).

Other information: Refer to section 13 for appropriate disposal.

7 HANDLING AND STORAGE

Precautions for safe handling

Protective Measures: Avoid spray back and splashing. Keep container tightly closed when not in use.

Measures to prevent fire: Not applicable. Non flammable liquid.

Measure to prevent aerosol and dust generation: Not applicable.

Measures to protect environment: Avoid spills and keep away from drains.

Advice on general occupational hygiene: Do not eat, drink and smoke in work area. Wash hands after using. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

Technical Measures and storage conditions: Store in cool dry area. Keep container tightly closed.

Packing Materials: Suitable for storage in HDPE and PET plastics.

Requirements for storage rooms and vessels: Do not allow to freeze or overheat.

Storage Class - Further information on storage conditions: None needed.

Specific End Uses - Recommendations: Cleaner / Degreaser used manually or with pressure washers and parts washers.

Specific End Uses - Industrial sector specific solutions: See above

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limit Values: Sodium Carbonate (497-19-8) – Czech Republic - 10 mg/m^3 Ceiling; 5mg/m^3 TWA
Sodium Carbonate (497-19-8) – Romania - 3 mg/m^3 STEL; 1 mg/m^3 TWA

Exposure Controls

Appropriate Engineering Controls Avoid spray back and splashing. Keep container tightly closed when not in use.

Personal Protection Equipment

Eye and Face Protection: If splashing is likely use protective glasses or goggles.

Skin Protection - Hands: Not needed. Extended usage with dermally sensitive individuals may require nitrile gloves.

Skin Protection – Other skin protection: Not needed.

Respiratory Protection: Not needed. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal Hazards: Not needed.

Environmental exposure controls: Do not allow into open waterways and ground water systems.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Colorless Liquid	**Vapour Density:**	Not tested
Odor:	Detergent; No Added Odor	**Relative Density** ASTM D-4017**:**	1,025 g/ml
Odor Threshold:	Not determined	**Solubility:**	100% in water
pH ASTM D-1293**:**	9,8 – 10,8	**Partition Coefficient:**	Not tested
Freezing Point ASTM D-1177**:**	0 – 3,33°C (32 - 38°F)	**Auto-Ignition Temperature:**	None, see flash point
Boiling Point ASTM D-1120**:**	101°C (213,8°F)	**Decomposition Temperature:**	Not tested
Flash Point ASTM D-93**:**	None	**Viscosity:**	Not tested
Evaporation Rate:	Not tested	**Explosive Properties:**	None, see flash point
Flammability:	None, see flash point	**Oxidizing Properties:**	None, contains no oxidizers
Vapour Pressure:	Not determined	**VOCs** CARB Method 310**:**	0,4%
Upper/Lower Flammability or explosive limits:	Not applicable		

10 STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: Under storage at normal ambient temperatures (minus 40° C to + 40° C), the product is stable
Possibility of Hazardous Reactions: No known hazardous reactions
Conditions to avoid: Excessive heat, light or freezing temperatures
Incompatible Materials: Materials susceptible to degreasing agents.
Hazardous decomposition products: No known hazardous decomposition products.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity (for mixture)- **Oral (LD_{50}, rat, mg/kg):** > 5000[1] **Dermal (LD_{50}, rat, mg/kg):** > 5000[1]
Inhalation (LC_{50}, rat, mg/l/4h): Contains no ingredients classifiable in this category

Skin Corrosion /Irritation: Non-irritant per Dermal Irritection® assay modeling. No animal testing performed.
Serious Eye damage/Irritation: Slight irritant per Ocular Irritection® assay modeling. No animal testing performed.

Respiratory or skin sensitization: No.[2] **Carcinogenicity:** No.[2]
Germ cell mutagenicity: No.[2] **Reproductive toxicity:** No.[2]
Summary of evaluation of CMR properties: Mixture and ingredients are not classifiable according to CLP in this category.
STOT-single exposure: No.[2] **STOT-repeated exposure:** No.[2]
Aspiration hazard: No.[2]

11 TOXICOLOGICAL INFORMATION - continued

[1] calculated via (EC) No 1272/2008 on Classification, Labelling and Packaging of substances and mixtures. No animal testing performed.
[2] Mixture, based on ingredients, is not classifiable according to CLP in this category.

12 ECOLOGICAL INFORMATION

Toxicity

Acute		**Chronic**	
Fish:	Aquatic Toxicity – Low , based on OECD 201, 202, 203 + Microtox: EC_{50} & IC_{50} ≥100 mg/L.	**Fish:**	Not tested
Crustacea:		**Crustacea:**	Not tested
Algae/aquatic plants:		**Algae/aquatic plants:**	Not tested
Other organisms:	Not tested	**Other organisms:**	Not tested

Persistence and degradability:
Abiotic Degradation: Surfactant degrades abiotically **Physical- and photo-chemical elimination:** Not assessed
Biodegradation: Readily Biodegradable per OECD 301D, closed bottle test.

Bioaccumulative potential
Partition coefficient n-octanol/ water (log Kow): Not assessed **Bioconcentration factor (BCF):** Not assessed

Mobility in soil
Known or predicted distribution to environmental compartments: Unknown
Surface Tension: Not tested **Adsorption/Desorption:** Not tested

Results of PBT and vPvB assessment: Contains no ingredients known as PBT or vPvB.
Other adverse effects: Unknown
Additional Information: None

13 DISPOSAL CONSIDERATIONS

Unused and Used liquid disposal: May be considered hazardous in your area depending on usage and tonnage of disposal – check product IDS and with local, national and European waste management legislation for appropriate methods of disposal. *Waste should not be disposed of by release to sewers.*
Empty Container disposal Triple rinse plastic bottles and offer all up for recycling.

Never dispose of preparation into lakes, streams, and open bodies of water or storm drains.
Be sure to follow any National or Regional provisions that may be in force.

14 TRANSPORTATION INFORMATION

DOT / TDG: Not classified as hazardous.
IMO / IDMG: Not classified as hazardous.
ICAO-TI/ IATA-DGR: Not classified as hazardous.
ADR / RID / ADN: Not classified as hazardous.
AND tank vessels: Not classified as hazardous.

UN Number: Not applicable
Transport Hazard Class(es): Non-Hazardous
Packing Group: Not applicable
Environmental Hazards: Not applicable
UN Proper Shipping Name: Cleaning Compound, Liquid NOI
NMFC#48580-3
Class 55

Special Precautions for User: Check section 3, section 7 and IDS for ingredient classification
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

15 REGULATORY INFORMATION

This mixture contains only ingredients which have been subject to a pre-registration according to Regulation (EC) No. 1907/2006 (REACH).

Detergent Regulation 648/2004/EC : Please see separate IDS for full ingredient disclosure

Germany – Water Classification Sodium Carbonate (497-19-8) – ID Number 222, Hazard Class 1
Ethoxylated Alcohol (68439-46-3) – ID Number 670, Hazard Class 2
Citric Acid (77-92-9) – ID Number 57, Hazard Class 1

Russia: Citric Acid (77-92-9) 0,1 mg/m^3 MAC

Additional Markings: None.

VOC Content: 0,4% (4 g/L) in concentrate

Chemical Safety Assessment: No chemical safety assessment has been carried out for this mixture by the supplier.

16 OTHER INFORMATION

Abbreviations
H318 – Causes serious eye damage
H319 – Causes serious eye irritation

Classification according to Regulation (EC) Nr. 1272/2008

Classification	Procedure
Eye Corrosive/Irritant, Category 2 – H319	InVitro Irritection Test Data and Calculation

Manufacturer Numbers:

Size	Manufacturer Number	UPC
500 mL	0600500172905; 0610501272905	0-43318-72905-8
946 mL	0607500100032; 0617501200032	0-43318-00193-2
946 mL	0607500172932; 0617501272932	0-43318-00194-9
946 mL	0607500172932; 0617501272932	0-43318-00196-3
1 L	0607500172901; 0617501272901	0-43318-00161-1
1 L	0600500172901; 0600501272901; 0610501272901; 72901	0-43318-72901-0
10 L	0600500172910; 0610500272910; 72910	0-43318-72910-2
20 L	0600500172912	0-43318-00252-6
208 L	0600500172920; 72920	0-43318-72920-1

The statements in this Safety Data Sheet were made to the best of our knowledge and are as accurate as possible. They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must neither be altered nor transferred to other products.

Date of Issue: 01.06.2015 **Replaces Data Sheet of:** 04.09.2014
Indication of changes: Updated for June 1, 2015 CLP deadline
Responsible Party for SDS: Simple Green Research & Development Department, info@simplegreen.com

MATERIAL SAFETY DATA SHEET

Product Name / Number **CWT-895**
Company Name ..... **PrecisionChem Water Treatment**
Address ..... **W7231 State Road 49**
Waupun, WI 53963
Emergency Response Number ..... **(800) 535-5053 Infotrac**
Effective Date ..... **January 2010**

DOT Ship Class ..... NON-HAZARDOUS MATERIAL
Emergency Response Guide Number ..... NA

HMIS Rating:
Health- 1 **Flammability- 0** **Reactivity- 0** **Personal/Protection- C**

I - COMPOSITIONAL INFORMATION

Ingredients	Cas Number	Percent	OSHA PEL	ACGIH TLV	Other Limits
2-PHOSPHONOB UTANE 1,2,4-TRICARBOXYLIC ACID	37971-36-1	0-10	NONE ESTABLISHED		
1-HYDROXYETHYLIDENE-1, DIPHOSPHONIC ACID	2809214	0-10	NONE ESTABLISHED		
SODIUM TOLYTRIAZOLE	10102406	0-5	NONE ESTABLISHED		
POLYMER/SOLIDS	0151006-66-5	0-10	NONE ESTABLISHED		
Non-Hazardous Ingredients		65-100			
Total		100			

II - PHYSICAL PROPERTY INFORMATION

Appearance-Odor ..... AMBER SLIGHT ODOR
pH 2-5
Melting Point ..... N/A
Boiling Point ..... 212° F
Vapor Pressure (mm HG) ..... N/A
Vapor Density (air = 1) ..... N/A
Solubility In Water ..... COMPLETE
Percent Volatile (by weight) ..... N/A
Specific Gravity (water = 1) 1.01-1.09
Evaporation Rate (water = 1) 1.0
Water Reactivity ..... NO

III - FIRE AND EXPLOSION HAZARD INFORMATION

Flash Point ..... NON-FLAMMABLE
Auto Ignition Temperature ..... N/A
Lower Explosion Limit (%) ..... N/A
Upper Explosion Limit (%) ..... N/A
Extinguishing Media ..... WATER FOG, ALCOHOL FOAM, CO2
Special Fire Fighting Procedures ..... SELF-CONTAINED BREATHING APPARATUS MUST BE WORN BEFORE ENTERING ANY FIRE
Unusual Fire And Explosion Hazardous ..... NONE

IV - HEALTH HAZARD INFORMATION

Primary Routes of Entry ..... INHALATION, INGESTION, SKIN ABSORPTION

Carcinogen Listed In ..... NOT LISTED

Health Hazards: Acute ..... IRRITATION TO EYES AND SKIN

Signs And Symptoms Of Exposure ..... BURNING SENSATION TO EYES AND SKIN

Effects Of Exposure ..... NONE ESTABLISHED

Emergency And First Aid Procedures

Inhalation: ..... REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION

Eye And Skin Contact: ..... FLUSH EYES WITH WATER FOR 15 MINUTES. FLUSH SKIN WITH WATER FOR 15 MINUTES. SEEK MEDICAL ATTENTION IF ANY IRRITATION PERSISTS.

Ingestion: ..... DO NOT INDUCE VOMITING. DILUTE BY GIVING LARGE AMOUNTS OF WATER. SEEK MEDICAL ATTENTION IMMEDIATELY.

V - REACTIVITY INFORMATION

Stability ..... STABLE

Hazardous Decomposition Products ..... NONE

Hazardous Polymerization ..... WILL NOT OCCUR

Incompatibility (materials to avoid) ..... ACIDS, OXIDIZERS OR ANY REACTIVE MATERIALS

VI - SPILL OR LEAK PROCEDURE INFORMATION

For Spills ..... STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb spill with paper towel or similar absorbent and place in dry garbage; or flush to sewer or ground with large amounts of water

Waste Disposal Methods ..... AS PER LOCAL AND FEDERAL REGULATIONS

VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection ..... NIOSH APPROVED RESPIRATOR

Protective Gloves ..... RUBBER GLOVES

Eye Protection ..... CHEMICAL SPLASH GOGGLES AND /OR FACE SHIELD

Ventilation To Be Used ..... LOCAL EXHAUST

Other Protective Equipment ..... RUBBER APRON

VIII - SARA TITLE III REGULATORY INGREDIENT INFORMATION

1. **Title III Section 302/304 Extremely Hazardous Substance List And / Or CERCLA Hazardous Substance List.**

   Component X

   Cas Number..... X

   Percent..... X

   T.P.Q. (lbs.)..... X

   R.Q. (lbs.)..... X

2. **Title III Section 313 Toxic Chemicals Annual Release Reporting Requirements. (SARA Section 313 Toxic Chemicals List)**

   Component X

   Cas Number..... X

   Percent..... X

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operations.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

SECTION 1 - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/IDENTIFIER
DE 1600 SERIES DUPLI-COLOR ENGINE PAINT

CONTROL NUMBER
CN11253

PART NUMBER(S)
992650 992651 992652 992654

FIRE :HIGH
CORROSIVE :LOW
CONTACT :LOW
HEALTH HAZARD: LOW

MANUFACTURER NAME		SUPPLIERS NAME	
DUPLI COLOR CANADA LTD.,		GENERAL MOTORS OF CANAD	
STREET ADDRESS		STREET ADDRESS	
5 CROCKFORD BLVD.,		1908 COLONEL SAM DRIVE	
CITY	PROVINCE/STATE COUNTRY	CITY	PROVINCE/STATE COUNTRY
SCARBOROUGH,	ONTARIO CANADA	OSHAWA	ONTARIO CANADA
POSTAL CODE	EMERGENCY TELEPHONE NO.	POSTAL CODE	EMERGENCY TELEPHONE NO.
M1L 4J9	416/751-2544	L1H 8P7	905-644-7091

PRODUCT DESCRIPTION
GM PAINT UNIT ENGINE ENAMEL

CHEMICAL NAME	TRADE NAME AND SYNONYMS
NOT AVAILABLE	992654 992653 992651 992650 992652 992648 992649 992647 DE 1600 SERIES DE1601 FORD BLUE DE1603 FORD GREEN DE1604 UNIVERSAL GOLD DE1605 FORD RED DE1606 FORD DARK BLUE DE1607 CHEVROLET ORANGE-RED DE1608 GM BLUE DE1609 CHEVROLET BLUE DE1610 PONTIAC BLUE DE1611 NEW FORD GREY DE1613 GLOSS BLACK DE1615 ALUMINUM DE1627 PONTIAC METALLIC BLUE DE1631 CHRYSLER CORP BLUE DE1632 CHRYSLER INDUSTRIAL RED DE1633 GM ALPINE GREEN DE1634 GM/CHRYSLER LOW GLOSS BLACK DE1635 FORD SEMI-GLOSS BLACK DE1636 CLEAR DE1637 HOT ROD WHITE DE1638 CUMMINGS BEIGE

CHEMICAL FAMILY	CHEMICAL FORMULA	MOLECULAR WEIGHT
NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE

MATERIAL USE
NOT AVAILABLE

TDG SHIPPING NAME	U.N. NUMBER	CLASS/DIVISION	PACKING GROUP
AEROSOLS N.O.S.	UN1950	2.1	

WHMIS CONTROLLED PRODUCT	WHMIS CLASS
SUPPLIER STATES NO	CONSUMER PRODUCT

WHMIS DIVISION	WHMIS SUBDIVISION

MATERIAL NAME/IDENTIFIER
DE 1600 SERIES DUPLI-COLOR ENGINE PAINT

CONTROL NUMBER
CN11253

SECTION 2 - CHEMICAL COMPOSITION INCLUDING HAZARDOUS INGREDIENTS

INGREDIENTS	% OR RANGE	UN, NA OR CAS NUMBER	8HR TWAEV PPM	8HR TWAEV MG/M3	15MIN STEL PPM	15MIN STEL MG/M3	CEILING PPM	CEILING MG/M3	
(R) ACETONE (2 PROPANONE)	29-31 W	67-64-1	500		750		2500		
(R) TOLUENE	16-19 W	108-88-3	50						
(R) XYLENE (DIMETHYLBENZENE)	0-19 W	1330-20-7	100	435	150	650	500		
PROPANE	14-15 W	74-98-6	2500						
N-BUTANE	13-15 W	106-97-8	800	1900	-				
ETHYL 3 ETHOXYPROPIONATE	5-6 W	763-69-9	50	300					
(R) ETHYL BENZENE	0-3 W	100-41-4	100	435	125	540	500		
CARBON BLACK (CARBON AMORPHOUS)	0-1 W	1333-86-4		3.5		10.5		17.5	
ACRYLIC POLYMER	6-17 W	68856-11-1							
ORANGE LEAD FREE PIGMENT	0-1 W	15793-73-4							
YELLOW IRON OXIDE	< 1 W	51274-00-1							
TALC (CONTAINING NO ASBESTOS FIBERS)	5 W	14807-96-6		2		-		10	
BENTONITE	< 1 W	1302-78-9							
TITANIUM DIOXIDE	5 W	13463-67-7		10		30		50	
COPPER PHTHALOCYANINE	< 1 W	147-14-8							

SECTION 3 - PHYSICAL DATA

BOILING POINT < 0 - 342°F	FREEZING POINT NOT APPLICABLE	SPECIFIC GRAVITY NOT AVAILABLE
VAPOUR PRESSURE NOT AVAILABLE	VAPOUR DENSITY > 1 @20°C	DENSITY 6.10 - 6.42 LB/GAL(A)
SOLUBILITY IN WATER NOT AVAILABLE	% VOLATILE (BY VOLUME) 50 - 55	EVAPORATION RATE NOT AVAILABLE

pH NOT AVAILABLE	PHYSICAL STATE LIQUID	COEFF. WATER/OIL DIST. NOT AVAILABLE	ODOUR THRESHOLD NOT AVAILABLE

ODOUR AND APPEARANCE
LIQUID

SECTION 4 - FIRE AND EXPLOSION DATA

FLASHPOINT AND METHOD < 0°F	LOWER EXPLOSION LIMIT 1.0 %	UPPER EXPLOSION LIMIT 12.8 %
AUTO IGNITION TEMPERATURE NOT AVAILABLE	SENSITIVITY TO IMPACT NOT AVAILABLE	SENSITIVITY TO STATIC DISCHARGE NOT AVAILABLE

FLAMMABILITY
These materials are a fire and explosion hazard when exposed to heat or flame.
Containers heated in a fire will explode.
Vapours of these materials are heavier than air and can flow along surfaces to distant points of ignition and can result in flashback.

MEANS OF EXTINCTION
Use carbon dioxide, dry chemical, or chemical foam to extinguish.

SPECIAL PROCEDURES
Firefighters must use self-contained breathing apparatus and full protective clothing.

HAZARDOUS COMBUSTION PRODUCTS
Burning in air can produce toxic vapours and gases.
These include partial oxidation products of hydrocarbons, oxides of carbon, and small amounts of sulphur dioxide (depending on sulfur content).

MATERIAL NAME/IDENTIFIER
DE 1600 SERIES DUPLI-COLOR ENGINE PAINT

CONTROL NUMBER
CN11253

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY
Products are stable in closed containers under normal storage and handling procedures, as specified in the Workplace MSDS.

INCOMPATIBILITY AND REACTIVITY
Incompatible with strong oxidizing agents (eg. fluorine, chlorine, and concentrated sulphuric acid).

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON DIOXIDE AND CARBON MONOXIDE

SECTION 6 - TOXICOLOGICAL PROPERTIES

BIOLOGICAL EFFECTS
These products are central nervous system depressants. (Levels of consciousness and mental alertness may be lowered).
At very high concentrations (100,000 ppm) the propellants act as simple asphxiants by lowering the oxygen content of the air.

LD50 OF MATERIAL	LC50 OF MATERIAL
NOT AVAILABLE	NOT AVAILABLE

IRRITANCY OF MATERIAL
EYE, SKIN, AND RESPIRATORY IRRITANT

SENSITIZING CAPACITY OF MATERIAL
NOT AVAILABLE

SYNERGISTIC MATERIALS
NOT AVAILABLE

CARCINOGENICITY OF MATERIAL
(R) ETHYL BENZENE, CARBON BLACK (CARBON AMORPHOUS) are classified possibly carcinogenic to humans by IARC.

REPRODUCTIVE EFFECTS OF MATERIAL
NOT AVAILABLE

TERATOGENICITY
NOT AVAILABLE

MUTAGENICITY
NOT AVAILABLE

SECTION 7

EFFECTS OF ACUTE EXPOSURE TO MATERIAL	FIRST AID MEASURES
ROUTE OF EXPOSURE: INHALATION Inhalation of vapours above the Employee Exposure Guidelines may result in headache, dizziness, and nausea. Inhalation of progressively higher concentrations above the Employee Exposure Guidelines will result in headache, dizziness, impairment of coordination and narcosis (drowsiness). Excessively high concentrations may result in loss of consciousness and may be fatal.	FIRST AID Remove to fresh air. Restore or support breathing if required. If irritation persists, seek medical attention.
ROUTE OF EXPOSURE: SKIN Prolonged or repeated exposure to these materials may produce skin irritation or dermatitis.	Wash exposed area with soap and warm water. If irritation persists, seek medical attention.
ROUTE OF EXPOSURE: EYES Eye contact with the liquid produces irritation and pain. Vapours, at concentrations above the Employee Exposure Guidelines can cause slight irritation of the eyes.	IMMEDIATELY flush eyes with copious quantities of water while holding eyelids open with the thumb and forefinger. Continue for 15 minutes. Seek medical attention, after flushing.

MATERIAL NAME/IDENTIFIER: DR 1600 SERIES DUPLI-COLOR ENGINE PAINT

CONTROL NUMBER: CN11253

ROUTE OF EXPOSURE: INGESTION Ingestion could result in dizziness, vomiting, abdominal pain and diarrhea. Difficult breathing, pulmonary edema (fluid in the lungs), and severe lung irritation may result if vomiting occurs after ingestion and the material is aspirated (drawn into) the lungs.	Seek IMMEDIATE medical attention. DO NOT induce vomiting. Give 3 or more glasses of milk or water to drink, ONLY if the victim is conscious.

SECTION 8 - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT
GLOVES
The use of seamless nitrile rubber gloves is recommended when handling these products.

RESPIRATORY PROTECTION
For exposures above the applicable Employee Exposure Guidelines or if requested by an employee, use NIOSH/MSHA approved respirator for organic vapours (NIOSH TC-23C).

EYE PROTECTION
WEAR SAFETY GLASSES

FOOTWEAR
NOT APPLICABLE

CLOTHING
NOT APPLICABLE

OTHER
NOT APPLICABLE

ENGINEERING CONTROLS
NOT APPLICABLE

LEAK AND SPILL PROCEDURE: SMALL SPILLS
For small spills, remove all sources of ignition.
Ventilate area.
Personnel working on the clean up of a spill must wear seamless nitrile rubber or neoprene gloves.
Mop, wipe or soak up with absorbent material.
Store used absorbent in covered, labelled, suitable containers prior to disposal.
Avoid inhalation of vapours or mists.
If requested by an employee, use NIOSH/MSHA approved respirator for organic vapours (NIOSH TC-23C).

LEAK AND SPILL PROCEDURE: LARGE SPILLS
Material is supplied and stored only in small quantities, LARGE SPILL procedures are not applicable.

WASTE DISPOSAL
Dispose of in accordance with Local, Provincial or Federal regulations as applicable.
Do not incinerate or puncture waste containers.

HANDLING PROCEDURES AND EQUIPMENT
Avoid airborne concentration build-up.
Use in well ventilated areas only.
Avoid breathing mists or vapours.
Avoid prolonged or repeated skin contact.
Remove all sources of ignition from the area of handling and use.
Do not spray on surfaces hotter than 40C/105F (warm to the touch), unless local exhaust ventilation is provided.
Do not use these materials in a confined space unless the confined space entry procedure is followed.
Do not spray in the direction of other personnel.
Spray only at arms length.
Do not spray for more than a few seconds inside enclosed areas, such as inside vehicles.
Do not smoke while using these products.
Employees who handle these materials must wash their hands with soap and water thoroughly before eating, smoking, or using toilet facilities.

MATERIAL NAME/IDENTIFIER
DR 1600 SERIES DUPLI-COLOR ENGINE PAINT

CONTROL NUMBER
CN11253

STORAGE REQUIREMENTS
Store in a cool, dry, well ventilated area, away from sources of heat and ignition.
Store in an approved flammable liquids storage area.
Containers may rupture if heated above 50C/120F (warm to the touch).
Protect containers from physical damage.

COMMENTS

SECTION 9 - PREPARATION INFORMATION

PREPARED BY:	PHONE NUMBER	DATE
GENERAL MOTORS OF CANADA INDUSTRIAL HYGIENE	(905) 644-6013	06-15-06

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo 100 Motor Oil SAE 40

Product Use: Diesel Engine Oil
Product Number(s): 222404
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if

contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Not applicable.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this

material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Amber
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1

Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.88 - 0.89 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Viscosity: 11.7 mm2/s @ 100°C (212°F) Minimum
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient:

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available
Flashpoint: (Cleveland Open Cup) 210 °C (410 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: This material is not expected to react.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: The hazard evaluation is based on data for components or a similar material.
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3). During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient:

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS

DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: MARCH 14, 2014

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo 100 Motor Oil SAE 40

Product Use: Diesel Engine Oil
Product Number(s): 222404
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to 29 CFR 1910.1200 (2012).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if

contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE SYMPTOMS AND HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS: Not classified.

Indication of any immediate medical attention and special treatment needed
Not applicable.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this

material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Amber
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1

Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.88 - 0.89 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.88 kg/l @ 15°C (59°F) (Typical)
Viscosity: 11.7 mm2/s @ 100°C (212°F) Minimum
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient:

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available
Flashpoint: (Cleveland Open Cup) 210 °C (410 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: This material is not expected to react.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.
Carcinogenicity: The hazard evaluation is based on data for components or a similar material.
Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.
Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3). During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material. The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient:

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS

DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: MARCH 14, 2014

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo 400 LE SAE 15W-40

Product Use: Diesel Engine Oil
Product Number(s): 222220
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to Canada regulatory guidelines.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight
Zinc alkyl dithiophosphate	68649-42-3	0.1 - < 2.5 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS

Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable
Specific Gravity: 0.87 - 0.9 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.8806 kg/l @ 15°C (59°F) (Typical)
Viscosity: 14.6 mm2/s @ 100°C (212°F) (Typical)
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 204 °C (399 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components has been notified but may not be listed in the following chemical inventories: IECSC (China). Secondary notification may be required.

One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: JUNE 18, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility

for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo ELC Antifreeze/Coolant - Premixed 50/50

Product Use: Antifreeze/Coolant
Product Number(s): 227811
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Target organ toxicant (repeated exposure): Category 2. Reproductive toxicant (developmental): Category 2.

Signal Word: Warning

Health Hazards: Suspected of damaging the unborn child.

Target Organs: May cause damage to organs (Kidney) through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required.
Response: Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	34 - < 80 %wt/wt
Sodium 2-ethylhexanoate	19766-89-3	0.1 - < 3 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: May be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: Contains material that may cause harm to the unborn child if swallowed based on animal data.
Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit:Kidney Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sodium.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.
Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: Do not store in open or unlabeled containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an

approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	--	--	100 mg/m3	--
Sodium 2-ethylhexanoate	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Liquid
Odor: Faint or Mild
Odor Threshold: No data available
pH: 8.10 - 8.50
Vapor Pressure: No data available
Vapor Density (Air = 1): 2.10
Initial Boiling Point: 109°C (228.2°F)
Solubility: Soluble in water.
Freezing Point: -37°C (-34.6°F)
Melting Point: Not Applicable
Specific Gravity: 1.08 @ 15.6°C (60.1°F)
Viscosity: No data available
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: Not Applicable
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain,

difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or

quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR
Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	YES
2.	Delayed (Chronic) Health Effects:	YES
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Ethylene Glycol	04, 05, 07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: FEBRUARY 24, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own

determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo ELC Antifreeze/Coolant - Premixed 50/50

Product Use: Antifreeze/Coolant
Product Number(s): 227811
Synonyms: Delo Extended Life Coolant 50/50 - Bitterant
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Target organ toxicant (repeated exposure): Category 2. Reproductive toxicant (developmental): Category 2.

Signal Word: Warning

Health Hazards: Suspected of damaging the unborn child.

Target Organs: May cause damage to organs (Kidney) through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required.
Response: Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	30 - 60 %weight
Sodium 2-ethylhexanoate	19766-89-3	1 - 5 %weight
Molybdic acid, disodium salt, dihydrate	10102-40-6	0.1 - 1 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Toxic; may be harmful or fatal if swallowed.
Inhalation: Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may

include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data. Contains material that may cause harm to the unborn child if swallowed based on animal data.
Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit:Kidney Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.
Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: Do not store in open or unlabeled containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: No respiratory protection is normally required. Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	--	--	100 mg/m3	--
Sodium 2-ethylhexanoate	Not Applicable	--	--	--	--
Molybdic acid, disodium salt, dihydrate	ACGIH	.5 mg/m3	--	--	A3 A3

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Liquid
Odor: Faint or Mild
Odor Threshold: No data available
pH: 8.1 - 8.5
Vapor Pressure: 0.12 mmHg (Typical) @ 20 °C (68 °F)
Vapor Density (Air = 1): 2.1
Initial Boiling Point: 108.9°C (228°F)
Solubility: Miscible
Freezing Point: -37°C (-34.6°F)
Specific Gravity: 1.08 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Viscosity: No data available
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 160 °C (320 °F) (Typical)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR
Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	YES
2.	Delayed (Chronic) Health Effects:	YES
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.
Ethylene Glycol 03, 05, 06, 07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ANTIFREEZE/COOLANT 13 - AFC13

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: MARCH 18, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo ELC PG Antifreeze/Coolant - Concentrate

Product Use: Antifreeze/Coolant
Product Number(s): 275110
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Reproductive toxicant (developmental): Category 2.

Signal Word: Warning

Health Hazards: Suspected of damaging the unborn child.

PRECAUTIONARY STATEMENTS:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
Response: IF exposed or concerned: Get medical advice/attention.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
1,2-Propanediol	57-55-6	80 - 98 %wt/wt
Potassium 2-ethylhexanoate	3164-85-0	3 - < 5 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: Contains material that may cause harm to the unborn child if swallowed based on animal data. Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Potassium.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and

use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: No respiratory protection is normally required.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
1,2-Propanediol	Not Applicable	--	--	--	--
Potassium 2-ethylhexanoate	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Pink
Physical State: Liquid
Odor: Faint or Mild
Odor Threshold: No data available
pH: 8 - 8.60
Vapor Pressure: No data available
Vapor Density (Air = 1): 2.10
Initial Boiling Point: 170°C (338°F) (Estimated)
Solubility: Soluble in water.
Freezing Point: -32.2°C (-26°F) (Max)
Melting Point: Not Applicable
Specific Gravity: 1.05 @ 15.6°C (60.1°F)
Viscosity: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 103 °C (217 °F) (Estimated)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION (PG BASED) IN NON-BULK PACKAGINGS; NOT REGULATED FOR TRANSPORT UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK

07=PA RTK

The following components of this material are found on the regulatory lists indicated.
1,2-Propanediol 06, 07

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), KECI (Korea).

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:

Label Category : ANTIFREEZE/COOLANT 9 - AFC9

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: FEBRUARY 29, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency

SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo ELC PG Antifreeze/Coolant - Concentrate

Product Use: Antifreeze/Coolant
Product Number(s): 275110
Synonyms: Delo Extended Life Coolant/Antifreeze - PG
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Reproductive toxicant (developmental): Category 2.

Signal Word: Warning

Health Hazards: Suspected of damaging the unborn child.

PRECAUTIONARY STATEMENTS:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
Response: IF exposed or concerned: Get medical advice/attention.
Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
1,2-Propanediol	57-55-6	70 - 98 %wt/wt
Potassium 2-ethylhexanoate	3164-85-0	3 - < 5 %wt/wt
Molybdic acid, disodium salt, dihydrate	10102-40-6	0.1 - 1 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data. Contains material that may cause harm to the unborn child if swallowed based on animal data. Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Potassium.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and

other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as:

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
1,2-Propanediol	Not Applicable	--	--	--	--
Potassium 2-ethylhexanoate	Not Applicable	--	--	--	--
Molybdic acid, disodium salt, dihydrate	ACGIH	.5 mg/m3	--	--	A3 A3

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Pink
Physical State: Liquid
Odor: Faint or Mild
Odor Threshold: No data available
pH: 8 - 8.6
Vapor Pressure: <1 mmHg @ 25 °C (77 °F)
Vapor Density (Air = 1): 2.1
Initial Boiling Point: 108.9°C (228°F)
Solubility: Miscible
Freezing Point: -32.2°C (-26°F) (Max)

Specific Gravity: 1.05 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Viscosity: No data available
Evaporation Rate: No data available
Decomposition temperature: No Data Available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 107 °C (225 °F)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from products of a similar structure and composition.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION (PG BASED) IN NON-BULK PACKAGINGS; NOT REGULATED FOR TRANSPORT UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

1,2-Propanediol	07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), KECI (Korea).

NEW JERSEY RTK CLASSIFICATION: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ANTIFREEZE/COOLANT 9 - AFC9

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1-16
Revision Date: MARCH 18, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Gear ESI SAE 80W-90, 85W-140

Product Use: Automotive Gear Lubricant
Product Number(s): 224503, 224504
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to Canada regulatory guidelines.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA,

Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Boron.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection

from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 100 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.88 - 0.91 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.8883 - 0.9095 kg/l @ 15°C (59°F)
Viscosity: 13.7 mm2/s @ 100°C (212°F) Minimum
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (ASTM D92) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), TSCA (United States).
One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), KECI (Korea), PICCS (Philippines).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: JUNE 19, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Syn ATF HD

Product Use: Automatic Transmission Fluid
Product Number(s): 223040
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Skin Sensitizer: Category 1A. Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Signal Word: Warning

Health Hazards: May cause allergic skin reaction.

Environmental Hazards: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment.
Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Specific treatment (see Notes to Physician on this label).
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin may cause an allergic skin reaction. Symptoms may include pain, itching, discoloration, swelling, and blistering. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unusual Fire Hazards: Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Nitrile Rubber.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Red
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available

pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.85 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.8535 kg/l @ 15°C (59°F) (Typical)
Viscosity: 6.8 cSt @ 100°C (212°F) (Min)
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), TSCA (United States).
One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), PICCS (Philippines).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 2, 16.
Revision Date: AUGUST 06, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Syn-Trans HD SAE 50

Product Use: Automotive Gear Lubricant
Product Number(s): 223039
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 1. Chronic aquatic toxicant: Category 3.

Signal Word: Warning

Environmental Hazards: Very toxic to aquatic life (H400). Harmful to aquatic life with long lasting effects (H412).

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment (P273).
Response: Collect spillage (P391).
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	40 - 69 %wt/wt
Zinc dialkyldithiophosphate		0.5 - 1.5 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves,

be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg (Estimated) @ 20 °C (68 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Specific Gravity: 0.86 @ 15°C (59°F) / 15°C (59°F)
Density: 0.86 kg/l @ 15°C (59°F) (Typical)
Viscosity: 17.80 mm2/s @ 100°C (212°F) Minimum
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 134 °C (273 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.For additional information on the acute toxicity of the components, call the technical information center.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

IMO/IMDG Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

ICAO/IATA Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR; OPTIONAL DISCLOSURE: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 2,3,8,9,11,12,15,16

Revision Date: FEBRUARY 23, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with

which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo Syn-Trans HD SAE 50

Product Use: Automotive Gear Lubricant
Product Number(s): 223039
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 1.

Signal Word: Warning

Environmental Hazards: Very toxic to aquatic life (H400).

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment (P273).
Response: Collect spillage (P391).
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	40 - 69 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually

provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 20 °C (68 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 316°C (600.8°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 0.86 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.86 kg/l @ 15.6°C (60.1°F) (Typical)
Viscosity: 17.8 mm2/s @ 100°C (212°F) (Min)
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 134 °C (273 °F) (Min)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains a component that was tested in a combined 28-day repeated dose and reproductive/ developmental screening study (OECD 422). Rats were dosed via oral gavage at 10, 30, 100 and 305

mg/kg/day test material. In the 305 mg/kg/day group, 6/10 pregnant females failed to deliver due to complete resorptions of the fetuses; in addition, there was an increase in resorptions in those rats that did deliver as well as a lower mean number of pups. Based on these findings, 100 mg/kg/day was considered to be the no-observed-adverse-effect level (NOAEL) for reproductive and developmental toxicity of OLOA 5286.

Parental toxicity was exhibited at dosages >= 100 mg/kg/day in this study. The adverse effects observed included: mortality, reversible clinical findings, lower mean body weights/ food consumption primarily during the initial week, reversible effects on clinical pathology, higher liver weights with no histopathologic correlates in male rats only, reversible histopathological findings related to the local irritation to the stomach, stress-related effects on mesenteric lymph nodes, and non-adverse pancreatic effects. Based on these findings, the NOAEL for parental systemic toxicity was considered to be 30 mg/kg/day. This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be very toxic to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

IMO/IMDG Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

ICAO/IATA Shipping Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR; OPTIONAL DISCLOSURE: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALKYL BENZENES), 9, III, MARINE POLLUTANT (ALKYL BENZENES)

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This is a new Material Safety Data Sheet.
Revision Date: AUGUST 18, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code

API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Product Name: DENPLEX SPRAY PAINT FLAT CHROME ALUMINUM--20015
Manufacturer: THE PENRAY COMPANIES, INC.
Revision Date: 04/19/2001

Product Name: DENPLEX SPRAY PAINT FLAT CHROME ALUMINUM--20015

Manufacturer: THE PENRAY COMPANIES, INC.
Address: 440 DENNISTON COURT WHEELING IL 60090
Telephone: (847) 459-5000
Emergency: (800) 752-7869
Contact: EH&S MANAGER

Trade Name: DENPLEX SPRAY PAINT FLAT CHROME ALUMINUM--20015
Synonyms:
Description: AEROSOL PAINT CONTAINING ORGANIC SOLVENTS

NFPA 704M© Rating:
Health: 2 Fire: 4 Reactivity: 0 Special:

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 02 COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Ingredients (% by Weight)

Ingredient	CAS Number	Percent Weight

PROPANE-ISOBUTANE-n-BUTANE	68476-86-8	20% - 25%
STODDARD SOLVENT	8052-41-3	1% - 5%
TOLUENE	108-88-3	50 %

SECTION 03 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Prolonged contact with skin may cause moderate irritation. Harmful if absorbed through skin, swallowed, or if eye contact occurs.

POTENTIAL HEALTH EFFECTS

CARCINOGENICITY: Product not considered a carcinogen by OSHA, NTP, or IARC.
MEDICAL CONDITIONS: Pre-existing eye or skin conditions may be aggravated by over-exposure to this product.
TARGET ORGANS: Nervous system, liver, lungs, kidneys.
PRIMARY ENTRY ROUTES: Skin absorption and inhalation.

ACUTE HEALTH EFFECTS

EYE: Will cause irritation upon contact.
SKIN: Prolonged contact with skin can cause irritation. Repeated skin contact may cause persistent irritation and dermatitis.
INHALATION: Respiratory irritation and dizziness.
INGESTION: This product may be harmful or fatal if swallowed. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

CHRONIC HEALTH EFFECTS: Overexposure to the ingredients in this product can cause liver abnormalities and kidney damage.

SECTION 04 FIRST AID INFORMATION

EYE CONTACT: Immediately flush eyes with plenty of water for 15 minutes. Seek medical attention.

SKIN CONTACT: Wash area with soap and water. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. If not breathing, give artificial

respiration. Seek medical attention. Inhalation hazard unlikely due to low volatility of product.

INGESTION: DO NOT induce vomiting. Only give CONSCIOUS victim two glasses of water and seek medical attention. NEVER give UNCONSCIOUS victim anything by mouth.

SECTION 05 FIRE FIGHTING MEASURES

FLASH POINT: BT 1 - 45 F TCC

EXTINGUISHING MEDIA: Carbon Dioxide (CO2), Dry Chemical, Foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and can collect in low areas.

FIRE FIGHTING INSTRUCTIONS: Containers can build up pressure if exposed to fire. Containers should be cooled with water spray.

FIRE FIGHTING EQUIPMENT: Self contained breathing apparatus with full face piece operated in positive pressure mode.

SECTION 06 ACCIDENTAL RELEASE MEASURES

SPILL/LEAK PROCEDURES: Notify safety personnel, evacuate all unnecessary personnel and provide adequate ventilation. If feasible and without risk, clean-up personnel should stop leak. All clean-up personnel should wear proper personal protective equipment.

SMALL SPILL: Clean with inert absorbant and place in recovery drums for disposal.

LARGE SPILL: Dike to prevent further migration of material. DO NOT release into waterways or sewers. Follow applicable federal and state regulations (20CFR1910.120).

NOTE: Product in aerosol container, spill hazard unlikely.

SECTION 07 HANDLING AND STORAGE

STORAGE REQUIREMENTS: Store in clean, dry locations away from excessive heat. Store in areas designated for the storage of (Level

II) aerosols according to NFPA 30B (Manufacturing and Storage of Aerosol Products).

HANDLING PRECAUTIONS: Wash throughly after handling. Do not get into eyes, on skin, or on clothing.

SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS: Eye wash station and safety shower.

VENTILATION: General ventilation. Material non-volatile.

PERSONNEL PROTECTIVE EQUIPMENT

EYE: Chemical splash goggles with indirect or no ventilation.
SKIN: Chemical resistant gloves such as nitrile.
RESPIRATORY: Wear organic vapor air purifying repirator when working with this product.

COMMENTS: Never eat, drink, or smoke in work areas.

SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 232 F

SPECIFIC GRAVITY: BT 0.87 - 1.30

VAPOR PRESSURE: BT 10 - 22 mmHG

SOLUBILITY IN WATER: Partially.

ODOR/APPEARANCE/CHARACTERISTICS: Gray liquid, organic solvent odor.

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable

POLYMERIZATION: Hazardous polymerization cannot occur.

CHEMICAL INCOMPATIBILITIES: Strong oxidizing agents.

CONDITION TO AVOID: Excessive heat and open flame.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, and carbon dioxide.

SECTION 11 TOXICOLOGICAL INFORMATION

----------LD50----------
Toluene: 7.71 mg/kg (oral)

SECTION 12 ECOLOGICAL INFORMATION

No data.

SECTION 13 DISPOSAL CONSIDERATIONS

As a waste, this product in its raw form =DOES MEET= the criteria of a hazardous waste as defined by RCRA (40CFR361). As a waste, this product can be fuel blended at a fuel blending facility.

Dispose of in accordance with all applicable state, federal, and local regulations.

SECTION 14 TRANSPORTATION INFORMATION

DOMESTIC:
*Consumer Commodity ORM-D

EXPORT:
*Aerosol Dispensers, Class 2.1, UN1950, IMCO 9.0, Page 9022.

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA: Considered hazardous material as defined by 29CFR1910.1200

EPA SARA TITLE III:
-Section 311-312 (40CFR370): If stored in excess of the threshold quantities, this product should be reported as a(n):

*IMMEDIATE (acute) HEALTH HAZARD
*DELAYED (chronic) HEALTH HAZARD
*FIRE HAZARD
*SUDDEN RELEASE HAZARD
-Section 313 (40CFR372): This product contains ingredients which are subject to the reporting requirements of SARA 313:
*Toluene

STATE REGULATIONS

CALIFORNIA PROPOSITION 65: This product contains ingredients which are on the current Proposition 65 list and known to the State of California to cause birth defects and other reproductive harm:
*Toluene

NEW JERSEY RIGHT TO KNOW: This product contains the following ingrediants, which are non-hazardous, but are among the top five ingrediants in this product.
----CHEMICAL-------CAS#--------
Aluminum Flake 7429-90-5

SECTION 16 OTHER INFORMATION

REVISION: 3

NOTES:
*NG="NOT GIVEN"
*BT="BETWEEN"
*<="LESS THAN"
*>="GREATER THAN"

USER'S RESPONSIBILITY: This MSDS provides environmental, health and safety information. This product is to be used in applications consistent with our product literature and container label. Individuals handling this product should be informed to the recommended safety precautions and have access to this MSDS. Please contact your local sales representative or our Environmental, Health and Safety Department for further information.

END OF MSDS

POWER SERVICE PRODUCTS, INC.

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL COMPANY AND PRODUCT IDENTIFICATION

PRODUCT NAME: DIESEL 9•1•1

Unless otherwise noted, all sections of this MSDS apply to each of the following products and part numbers.

PART NUMBERS:

8016-09, 8025-12, 8041-04, 8080-06, 8050-02, 8055-01, 8260-01 18016-09, 18025-12, 18040-04, 18080-06

COMPANY IDENTIFICATION:

Power Service Products, Inc.
P.O. Box 1089
Weatherford, TX 76086
Email: psp@powerservice.com
Phone: 800/643-9089 or 817-599-9486
Fax: 817-599-4893

Emergency Phone Number: Within USA 1-800-424-9300. Outside USA 001-703-527-3887 (Call Collect).

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Specific chemical information is being withheld as a Trade Secret. Specific chemical information will be made available to health professionals in accordance with 29 CFR 1910.1200.

INGREDIENTS

Aliphatic Hydroxy Hydrocarbons
Petroleum Distillates
Aromatic Hydrocarbons

SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

EYES: May cause eye irritation. Effects may include discomfort or pain and redness.

SKIN: May be harmful if absorbed through the skin. May cause skin irritation. Prolonged or repeated skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering.

INHALATION: Do not breathe vapors. Harmful or fatal if inhaled. Breathing of high vapor concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. The vapor or fumes from this material may cause respiratory irritation and damage auditory system. Breathing this material at elevated concentrations causes central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors, or convulsions, loss of consciousness, coma or death.

INGESTION: Do not take internally. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. This material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.

TARGET ORGANS:
Central nervous system, kidneys, blood, eyes, liver, skin, auditory system, mucous membranes, heart, gastrointestinal tract, respiratory tract, reproductive system.

SECTION 4 - FIRST AID MEASURES

As a precaution, exposure to liquids, vapors, mists and fumes should be minimized.

EYE CONTACT:
Hold eyelids apart and flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses, if present, after first 5 minutes of rinsing. If irritation persists, call a physician.

SKIN CONTACT:
Wash contact area with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. If irritation persists, call a physician.

INHALATION:
If overcome by vapors, move the exposed person to fresh air. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. Seek medical attention if breathing difficulties continue.

INGESTION:
If swallowed, do NOT induce vomiting. If vomiting occurs, have person lean forward. Keep at rest. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE PROPERTIES:

FLASH POINT: 75°F (TCC) 24°C

FLAMMABLE LIMITS: lower**:** Not Determined upper**:** Not Determined

AUTOIGNITION TEMPERATURE: Not Determined

EXTINGUISHING MEDIA:
Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.

FIRE FIGHTING:

FIRE FIGHTING INSTRUCTIONS: Use standard protective equipment including self-contained breathing apparatus (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and may travel along the ground to a distant ignition source and flash back. See Section 10 for Stability and Reactivity.

NOTE: EMPTY CONTAINERS CONTAIN FLAMMABLE VAPORS THAT CAN CAUSE FLASH FIRES OR EXPLOSIONS. CONTAINERS ARE SINGLE-TRIP CONTAINERS AND SHOULD NOT BE USED FOR ANY REASON AFTER BEING EMPTIED. DO NOT USE CUTTING TORCH EQUIPMENT OR ANY OTHER FLAME OR OTHER SOURCES OF IGNITION ON ANY EMPTY CONTAINER.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PROTECTIVE MEASURES:
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas. Eliminate all sources of ignition in the vicinity of the spill or released vapor. See Section 3 for Hazards Identification. See Section 4 for First Aid Measures. See Section 5 for Fire Fighting Information. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT:

Eliminate potential sources of ignition. Stop leak if it can be done without risk. Dike and contain spill. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. A vapor suppressing foam may be used to reduce vapors. Local, state and federal laws and/or regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean-up releases. The user/responder will need to determine which local, state and federal laws and/or regulations are applicable. The National Response Center can be reached at 1-800-424-8802.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Avoid contact with eyes and skin. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Keep away from ignition sources such as heat, sparks, and flames. No smoking.

STORING: DO NOT USE OR STORE near heat, sparks, or flame. USE AND STORE ONLY IN A WELL-VENTILATED AREA. Handle containers with care. Keep container closed when not in use.

STORAGE TEMPERATURE: -40°F to 100°F (-40°C to 38°C)

EMPTY CONTAINER WARNING: EMPTY CONTAINERS MAY CONTAIN FLAMMABLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION HAZARD DATA.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE GUIDELINES:

		OSHA	ACGIH		NIOSH			
	CAS #	PEL	TLV	STEL	REL	STEL	IDLH	Note
Ethylbenzene	100-41-4	100 ppm	100 ppm	125 ppm	100 ppm	125 ppm	800 ppm	n/a
Naphthalene	91-20-3	10 ppm	10 ppm	15 ppm	10 ppm	15 ppm	250 ppm	skin
Xylene	1330-20-7	100 ppm	100 ppm	150 ppm	100 ppm	150 ppm	900 ppm	n/a
Petroleum Distillates	n/a	500 ppm	not est.	not est.	86 ppm	444 ppm	1,100 ppm	n/a
2-Butanol	78-92-2	150 ppm	100 ppm	not est.	100 ppm	150 ppm	2,000 ppm	n/a
N-Butanol	71-36-3	100 ppm	20 ppm	not est.	50 ppm	not est.	1,400 ppm	skin
Cumene	98-82-8	50 ppm	50 ppm	not est.	50 ppm	not est.	900 ppm	Skin
Toluene	108-88-3	100 ppm	50 ppm	150 ppm	not est.	150 ppm	500 ppm	Skin

ENGINEERING CONTROLS: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Local exhaust ventilation is recommended to control exposure.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Eyes and Face: Eye protection such as safety glasses or chemical goggles is recommended if contact is likely.

Skin: If prolonged or repeated skin contact is likely, chemical/oil resistant clothing and gloves are recommended. Wear additional protective clothing as appropriate.

Respiratory: Wear a NIOSH/MSHA approved respirator as necessary.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Practice good housekeeping.

NOTE: These precautions are for room temperature handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Liquid
COLOR: Straw Yellow
ODOR: Strong Solvent
POUR POINT: -65°F (-54°C)
BOILING POINT: 200°F (93°C) est.
VAPOR PRESURE (psi): .58 est.
VAPOR DENSITY (AIR = 1): >3.0 est.
pH: 7-8 slightly basic
SPECIFIC GRAVITY (at 60°F): 0.84

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY:
This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

CONDITIONS TO AVOID:
Flames, high energy ignition sources, and elevated temperatures.

MATERIALS TO AVOID:

May react with oxygen, acids, including mineral acids, oxidizing agents, such as; chlorates, nitrates, peroxides, alkalis, etc., amines, caustics, alkanolamines halogens, chlorine.

HAZARDOUS DECOMPOSITION:
Carbon oxides, products of incomplete combustion.

HAZARDOUS POLYMERIZATION:
Hazardous polymerization will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS:

This product contains the following chemicals classified as carcinogens as indicated:

Chemical	Listed By
Ethylbenzene	IARC
Napthalene	IARC, NTP
Cumene	IARC

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY:
This material is expected to be toxic to aquatic organisms.

SECTION 13 - DISPOSAL CONSIDERATIONS

RCRA Information: Disposal of unused product may be subject to RCRA hazardous waste regulations (40 CFR Part 261). Disposal of the used product may also be regulated as hazardous waste due to resulting mixture characteristics, mixture components or product use. Such changes to the product may result in different and/or additional hazardous waste codes. Potential RCRA waste code based on the product as shipped: D001 IGNITABILITY. State or local laws may impose additional regulatory requirements regarding disposal. *Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.*

EMPTY CONTAINER WARNING: EMPTY CONTAINERS MAY CONTAIN FLAMMABLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION HAZARD DATA.

SECTION 14 - TRANSPORTATION INFORMATION

The following part numbers are classified as Consumer Commodity ORM-D:

8016-09, 8025-12, 8041-04, 8080-06, 18016-09, 18025-12, 18041-04, 18080-06

The following part numbers are regulated by DOT:

8050-02, 8055-01, 8260-01

PROPER SHIPPING NAME: Flammable Liquid, N.O.S., (Aliphatic Hydroxy Hydrocarbons)
HAZARD CLASS: 3
I.D. NUMBER: UN 1993
PACKING GROUP: III
PLACARDING: Flammable Liquid

SECTION 15 - REGULATORY INFORMATION

§14(a) Consumer Product Safety Act General Certificate of Conformity

Power Service Products, Inc. certifies that this product meets the statutory and regulatory requirements of the US Consumer Products Safety Act, the Federal Hazardous Substances Act, and the Poison Prevention Packaging Act of 1970, as applicable. The Power Service products are manufactured in the United States in Weatherford, Texas, unless otherwise indicated on the product label. The product manufacture date is stamped on the product container. This Certification is based upon a reasonable testing program conducted by Power Service Products, Inc. which includes a quality control program incorporating, as necessary, confirmation of compliance by component suppliers. Third-party testing is not required to certify compliance. Further details may be obtained by contacting the Power Service Products, Inc. Compliance Coordinator at 1-800-643-9089.

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200

TSCA STATUS:
All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA TITLE III CHEMICAL LISTINGS:

Section 302 Extremely Hazardous Substances: None

Sections 311/ 312 Hazard Class:
Acute Health Effects: Yes Sudden Release of Pressure Hazard: No
Chronic Health Effects: Yes Reactivity Hazard: No

Fire Hazard: Yes

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION) RATING:
HEALTH: **2**
FIRE: **3**
REACTIVITY: **0**

Section 313:
Specific chemical information is being withheld as a Trade Secret. The following chemicals subject to the reporting requirements of EPCRA Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (40 CFR Part 372) may be present in this product at a concentration that does not exceed the specified upper weight percentage.

CAS Number	Chemical Name	Max %
78-92-2	2-Butanol	21.5
71-36-3	N-Butanol	21.5
100-41-4	Ethylbenzene	9.0
1330-20-7	Xylene	3.0
98-82-8	Cumene	1.5
108-88-3	Toluene	1.5
91-20-3	Naphthalene	0.5

The following components of this material are found on these state regulatory lists.

2-Butanol: PA RTK, MA RTK, NJ RTK, RI RTK, CA RTK

N-Butanol: PA RTK, MA RTK, NJ RTK, RI RTK, CA RTK

Ethylbenzene: California Prop. 65, MA RTK, NJ RTK, PA RTK, RI RTK, NDEP HAP, MN Hazardous Substance, CA RTK

Xylene: MA RTK, NJ RTK, PA RTK, RI RTK, NDEP HAP, MN Hazardous Substance, CA RTK

Cumene: California Prop. 65, MA RTK, NJ RTK, PA RTK, RI RTK, NDEP HAP, MN Hazardous Substance, CA RTK

Toluene: California Prop. 65, MA RTK, NJ RTK, PA RTK, RI RTK, NDEP HAP, MN Hazardous Substance, CA RTK

Naphthalene: California Prop. 65, MA RTK, NJ RTK, PA RTK, RI RTK, NDEP HAP, MN Hazardous Substance, CA RTK

This product contains a chemical known to the state of California to cause cancer and/or birth defects or other reproductive harm.

SECTION 16 – OTHER INFORMATION

The information contained herein is offered in good faith and is believed to be accurate based on the data available to us as of the date of MSDS preparation. The information in this document applies to this specific product as supplied. It may not be appropriate for this product if the product is used in combination with other materials. The information in this document is not intended to constitute product performance information. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product. No statement shall be construed as an endorsement of any product or process. The recommended industrial hygiene and safe handling procedures are believed to be valid in the context of the intended use as described in product labeling. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. You are urged to obtain material safety data sheets for all products you buy, process, use or distribute, and are encouraged to advise those who may come in contact with such products of the information contained therein. Regulatory requirements are subject to change and may differ between locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. No warranty or guarantee is expressed or implied with respect to this product, the accuracy and sufficiency of the data or recommendations herein, or the results to be obtained from the use of this product. IN NO EVENT SHALL POWER SERVICE PRODUCTS, INC. BE LIABLE FOR ANY LOSS, CLAIM, DAMAGE OR LIABILITY OF ANY KIND, WHICH MAY ARISE FROM OR IN CONNECTION WITH THE INFORMATION CONTAINED IN THIS DOCUMENT OR FROM THE USE, HANDLING OR STORAGE OF THE PRODUCT BY THE BUYER/USER, WHETHER DIRECT, INDIRECT, OR CONSEQUENTIAL, OR FOR ANY CLAIM BY ANY THIRD PARTY, BEYOND THE PURCHASE PRICE OR REPLACEMENT OF THE PRODUCT IN CONNECTION WITH WHICH SUCH LOSS, CLAIM, DAMAGE OR LIABILITY AROSE.

THE FOREGOING LIMITATIONS APPLY REGARDLESS OF THE CAUSES OR CIRCUMSTANCES GIVING RISE TO SUCH LOSS, CLAIM, DAMAGE OR LIABILITY, EVEN IF SUCH LOSS, CLAIM, DAMAGE, OR LIABILITY IS BASED ON NEGLIGENCE OR OTHER TORTS OR BREACH OF CONTRACT.

SAFETY DATA SHEET

Section 1. Identification

Product name	Diesel Fuel No. 2
Chemical name	Fuels, diesel
SDS #	11155
Code	11155

Relevant identified uses of the substance or mixture and uses advised against

Product use	Fuel.
Supplier	BP Products North America Inc. 150 West Warrenville Road Naperville, Illinois 60563-8460 USA
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 CARCINOGENICITY - Category 2 ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms

Signal word	Danger
Hazard statements	Combustible liquid. Harmful if inhaled. Causes skin irritation. Suspected of causing cancer. May be fatal if swallowed and enters airways.

Precautionary statements

Prevention	Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Do not breathe vapor. Wear protective gloves and eye protection. Avoid release to the environment.

Section 2. Hazards identification

Response	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention.
Storage	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	This material may contain significant quantities of polycyclic aromatic hydrocarbons (PAHs), some of which have been shown by experimental studies to induce skin cancer. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

Section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	CAS number	%
Petroleum distillates (Diesel Fuel No. 2)	68476-34-6	95 - 100
Contains one or more of the following biodiesels:	Varies	0 - 5
soybean oil, me ester	67784-80-9	.
Fatty acids, sunflower-oil, Me esters	68919-54-0	.
Fatty acids methyl esters	67762-38-3	.
Fatty acids, vegetable-oil, Methyl esters	68990-52-3	.
rape oil, me ester	73891-99-3	.
Fatty acids, canola-oil, Me esters	129828-16-6	.
fatty acids, tallow, me esters	61788-61-2	.
Contains:		
Naphthalene	91-20-3	1 - 3
May also contain small quantities of proprietary performance additives.		

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.
Specific treatments	No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Flammable liquid and vapor. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Hazardous combustion products	Combustion products may include the following: carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide) other hazardous substances.
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.
For emergency responders	Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Collect spillage.

Methods and materials for containment and cleaning up

Small spill	Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

Section 6. Accidental release measures

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/ containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
fuel, diesel no. 2	**ACGIH TLV (United States). Absorbed through skin.** TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Issued/Revised: 1/2007 Form: Inhalable fraction and vapor
naphthalene	**ACGIH TLV (United States). Absorbed through skin.** TWA: 52 mg/m³ 8 hours. Issued/Revised: 5/1996 TWA: 10 ppm 8 hours. Issued/Revised: 5/1996 **OSHA PEL (United States).** TWA: 50 mg/m³ 8 hours. Issued/Revised: 6/1993 TWA: 10 ppm 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Recommended: Chemical splash goggles.

Skin protection

Hand protection

Wear chemical resistant gloves. Nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

Section 8. Exposure controls/personal protection

Body protection	Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Wear suitable protective clothing. Footwear highly resistant to chemicals. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static. When there is a risk of ignition wear inherently fire resistant protective clothes and gloves. Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: nitrile rubber
Respiratory protection	Use only with adequate ventilation. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter. If operating conditions cause high vapor concentrations or the TLV is exceeded, use NIOSH-certified, supplied-air respirator. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Colorless. to Various Color. (May be dyed Red., Light Green. ,Yellow.)
Odor	Petroleum
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: ≥52°C (≥125.6°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Lower: 0.6% Upper: 7.5%
Vapor pressure	Not available.
Vapor density	Not available.
Density	820 to 875 kg/m³ (0.82 to 0.875 g/cm³)
Relative density	<1 [Water = 1]

Section 9. Physical and chemical properties

Solubility	negligible <0.1%
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	257°C (494°F)
Decomposition temperature	Not available.
Viscosity	Kinematic: 1.7 to 4.1 mm^2/s (1.7 to 4.1 cSt) at 40°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. halogenated compounds.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
fuel, diesel no. 2	LC50 Inhalation Dusts and mists	Rat	4.1 mg/l	4 hours	Based on Diesel fuel
	LD50 Dermal	Rabbit	>4300 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Dermal	Rabbit	>4300 mg/kg	-	Based on Diesel fuel
	LD50 Oral	Rat	17900 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Oral	Rat	7600 mg/kg	-	Based on Diesel fuel
naphthalene	LC50 Inhalation Dusts and mists	Rat	>340 mg/m^3	1 hours	-
	LD50 Dermal	Rabbit	20 g/kg	-	-
	LD50 Oral	Rat	490 mg/kg	-	-

Conclusion/Summary Not available.

Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks

fuel, diesel no. 2	Rabbit	Skin - Irritation	-	-	-	-	Based on No. 2 Heating Oil.
	Rabbit	Skin - Irritation	-	-	-	-	Based on Diesel fuel
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on No. 2 Heating Oil.
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on Diesel fuel

Sensitizer

Product/ingredient name	Route of exposure	Species	Result	Remarks
fuel, diesel no. 2	skin	Guinea pig	Not sensitizing	Based on No. 2 Heating Oil.
	skin	Guinea pig	Not sensitizing	Based on Diesel fuel

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
fuel, diesel no. 2	Equivalent to OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Positive	Based on Hydrodesulfurized gas oil
	OECD 471	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Diesel fuel
	Equivalent to OECD 471	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Cracked gas oil
	Equivalent to OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative	Based on Heating Oil.
	not guideline 475	Experiment: In vivo Subject: Unspecified Cell: Somatic	Negative	Based on Heating Oil.
	Equivalent to OECD 475	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Gas oil

Conclusion/Summary Not available.

Carcinogenicity

Product/ingredient name							
fuel, diesel no. 2	Equivalent to OECD	451	Mouse	Dermal	2 years	Positive - Dermal - Unspecified	Based on Heating Oil.
	not guideline	-	Mouse	Dermal	2 years	Positive - Dermal - Unspecified	Limited relevance to man. (Based

Section 11. Toxicological information

on Heating Oil.
)

Conclusion/Summary Suspected of causing cancer.

Classification

Product/ingredient name	OSHA	IARC	NTP
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

OSHA:
+ - Potential occupational carcinogen

IARC:
1 - Carcinogenic to human.
2A - Probable human carcinogen.
2B - Possible carcinogen to human.
3 - Not classifiable as a human carcinogen.
4 - Probably not a human carcinogen.

NTP:
Proven - Known to be human carcinogens.
Possible - Reasonably anticipated to be human carcinogens.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Result	Exposure
fuel, diesel no. 2	-	-	Negative	Rat	Dermal	20 days
	-	-	Negative	Rat	Dermal	10 days
	-	-	Negative	Rat	Dermal	10 days
	-	-	Negative	Rat	Dermal	20 days

Conclusion/Summary Development: Not classified. Based on available data, the classification criteria are not met.
Fertility: Not classified. Based on available data, the classification criteria are not met.
Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Aspiration hazard

Name	Result
fuel, diesel no. 2	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Skin contact Causes skin irritation.

Inhalation Harmful if inhaled.

Ingestion Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact Adverse symptoms may include the following:
pain or irritation
watering
redness

Skin contact Adverse symptoms may include the following:
irritation
redness

Inhalation Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Section 11. Toxicological information

Ingestion	Adverse symptoms may include the following: nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Vapor, mist or fume may irritate the nose, mouth and respiratory tract.
Potential delayed effects	Not available.

Long term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Potential chronic health effects

General	May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Carcinogenicity	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information

Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Do not siphon by mouth.

Additional information

Middle distillate: From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess weak carcinogenic activity in laboratory animals. In these tests, the material is painted on the shaved backs of mice twice a week for their lifetime. The material is not washed off between applications. Therefore, there may be a potential risk of skin cancer from prolonged or repeated skin contact with this product in the absence of good personal hygiene. This particular product has not been tested for carcinogenic activity, but we have chosen to be cautious in light of the findings with other distillate streams.

Occasional skin contact with this product is not expected to have serious effects, but good personal hygiene should be practiced and repeated skin contact avoided. This product can also be expected to produce skin irritation upon prolonged or repeated skin contact. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

Naphthalene has been reported to cause developmental toxicity in mice after oral exposure to relatively high dose levels, but developmental toxicity was not observed in NTP (National Toxicology Program) sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphate dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans.

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Product/ingredient name	Species	Test/Result	Exposure	Effects	Remarks
fuel, diesel no. 2	Micro-organism	EL50 >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Micro-organism	NOELR 3.217 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Algae	Acute EL50 22 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Daphnia	Acute EL50 210 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	Daphnia	Acute EL50 68 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	Algae	Acute ErL50 78 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Fish	Acute LL50 65 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	Fish	Acute LL50 21 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	Algae	Acute NOELR 10 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Algae	Acute NOELR 1 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Daphnia	Acute NOELR 46 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	Fish	Chronic NOEL 0.083 mg/l Nominal Fresh water	14 days	Mortality	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Daphnia	Chronic NOELR 0.2 mg/l Nominal Fresh water	21 days	Immobilization	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
naphthalene	Algae	EC50 0.4 mg/l	96 hours	-	-
	Crustaceans	EC50 2.16 mg/l	48 hours	-	-

Section 12. Ecological information

Conclusion/Summary Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Naphthalene	91-20-3	Listed	U165

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	NA1993	UN1202	UN1202	UN1202
UN proper shipping name	Diesel fuel	Gas oil	Gas oil Marine pollutant	Gas oil
Transport hazard class(es)	Combustible liquid.	3 	3  	3 
Packing group	III	III	III	III

Section 14. Transport information

Environmental hazards	No.	No.	Yes.	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials in package sizes less than the product reportable quantity. **Reportable quantity** 100 lbs / 45.4 kg [14.152 gal / 53.569 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Proper shipping name MARPOL Annex 1 rules apply for bulk shipments by sea.
Category: gas oils, including ship's bunkers

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b) All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA 313

Section 15. Regulatory information

	Product name	CAS number	Concentration
Form R - Reporting requirements	naphthalene	91-20-3	1 - 3
Supplier notification	naphthalene	91-20-3	1 - 3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

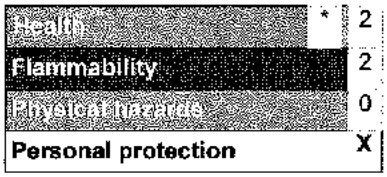
Massachusetts	The following components are listed: NAPHTHALENE
New Jersey	The following components are listed: NAPHTHALENE; MOTH FLAKES
Pennsylvania	The following components are listed: NAPHTHALENE
California Prop. 65	**WARNING:** This product contains a chemical known to the State of California to cause cancer. naphthalene; cumene; ethylbenzene; cumene; Propylene oxide; benzo[a]pyrene **WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Toluene; Methanol **WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Benzene Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including diesel exhaust, a Prop 65 carcinogen, and carbon monoxide, a Prop 65 reproductive toxin.

Other regulations

Australia inventory (AICS)	At least one component is not listed.
Canada inventory	Not determined.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
Philippines inventory (PICCS)	At least one component is not listed.
Taiwan inventory (CSNN)	Not determined.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

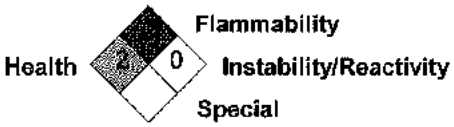
Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.)



Section 16. Other information

History

Date of issue/Date of revision	01/06/2015.
Date of previous issue	01/06/2015.
Key to abbreviations	ACGIH = American Conference of Industrial Hygienists ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) OEL = Occupational Exposure Limit SDS = Safety Data Sheet STEL = Short term exposure limit TWA = Time weighted average UN = United Nations UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

▼ Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Safety Data Sheet

Material Name: Diesel Fuel, All Types

SDS No. 9909
US GHS

Synonyms: Ultra Low Sulfur Diesel; Low Sulfur Diesel; No. 2 Diesel; Motor Vehicle Diesel Fuel; Non-Road Diesel Fuel; Locomotive/Marine Diesel Fuel

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 3
Skin Corrosion/Irritation – Category 2
Germ Cell Mutagenicity – Category 2
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Aspiration Hazard – Category 1
Hazardous to the Aquatic Environment, Acute Hazard – Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

DANGER

Hazard Statements

Flammable liquid and vapor.
Causes skin irritation.
Suspected of causing genetic defects.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/mist/vapours/spray.

Response

In case of fire: Use water spray, fog or foam to extinguish.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
68476-34-6	Fuels, diesel, no. 2	100
91-20-3	Naphthalene	<0.1

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities

Keep away from strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: 100 mg/m3 TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)
Skin - potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: 10 ppm TWA
15 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 10 ppm TWA; 50 mg/m3 TWA
NIOSH: 10 ppm TWA; 50 mg/m3 TWA
15 ppm STEL; 75 mg/m3 STEL

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Clear, straw-yellow.	**Odor:**	Mild, petroleum distillate odor
Physical State:	Liquid	**pH:**	ND
Vapor Pressure:	0.009 psia @ 70 °F (21 °C)	**Vapor Density:**	>1.0
Boiling Point:	320 to 690 °F (160 to 366 °C)	**Melting Point:**	ND
Solubility (H2O):	Negligible	**Specific Gravity:**	0.83-0.876 @ 60°F (16°C)
Evaporation Rate:	Slow; varies with conditions	**VOC:**	ND
Percent Volatile:	100%	**Octanol/H2O Coeff.:**	ND
Flash Point:	>125 °F (>52 °C) minimum	**Flash Point Method:**	PMCC
Upper Flammability Limit (UFL):	7.5	**Lower Flammability Limit (LFL):**	0.6
Burning Rate:	ND	**Auto Ignition:**	494°F (257°C)

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m3 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This material has been positive in a mutagenicity study.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

B: Component Carcinogenicity

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Fuels, diesel, no. 2 (68476-34-6)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	35 mg/L [flow-through]	

Naphthalene (91-20-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]	
96 Hr LC50 Pimephales promelas	1.99 mg/L [static]	

96 Hr LC50 Lepomis macrochirus	31.0265 mg/L [static]
72 Hr EC50 Skeletonema costatum	0.4 mg/L
48 Hr LC50 Daphnia magna	2.16 mg/L
48 Hr EC50 Daphnia magna	1.96 mg/L [Flow through]
48 Hr EC50 Daphnia magna	1.09 - 3.4 mg/L [Static]

Persistence/Degradability
No information available.

Bioaccumulation
No information available.

Mobility in Soil
No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information
Shipping Name: Diesel Fuel
NA #: 1993 **Hazard Class:** 3 **Packing Group:** III
Placard:

* * * Section 15 - Regulatory Information * * *

Regulatory Information

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA Section 311/312 – Hazard Classes

Acute Health	Chronic Health	Fire	Sudden Release of Pressure	Reactive
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the de minimis levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right- To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuels, diesel, no. 2	68476-34-6	No	No	No	Yes	No	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

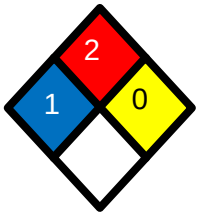
Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Fuels, diesel, no. 2	68476-34-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

NFPA® Hazard Rating

Health	1
Fire	2
Reactivity	0



HMIS® Hazard Rating

Health	1*	Slight
Fire	2	Moderate
Physical	0	Minimal
		*Chronic

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

SAFETY DATA SHEET

DILUTE ACIDS ≤50%

Section 1. Identification

GHS product identifier : DILUTE ACIDS ≤50%

Other means of identification : Not available.

Product type : Liquid.

Identified uses

Not available.

Supplier's details : Alchemix Corporation
2300 West Point Avenue
College Park, GA 30337
Phone: 1-404-761-0604
Toll free: 1-800-535-2968
Fax: 1-404-559-8892

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1A
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P264 - Wash hands thoroughly after handling.

Response : P304 + P340 + P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several

Section 2. Hazards identification

minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Sulfuric acid	1 - 50	7664-93-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : Causes severe burns.

Ingestion : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
Sulfur oxides

Special protective actions for fire-fighters : No special measures are required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Sulfuric acid	**ACGIH TLV (United States, 4/2014).** TWA: 0.2 mg/m³ 8 hours. Form: Thoracic fraction **NIOSH REL (United States, 10/2013).** TWA: 1 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1 mg/m³ 8 hours.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : Not available.

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Volatility : Not available.

VOC content : 0 % (w/w)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: reducing materials, organic materials, alkalis and moisture.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sulfuric acid	LD50 Oral	Rat	2140 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sulfuric acid	Eyes - Severe irritant Eyes - Severe irritant	Rabbit Rabbit	- -	250 µg 0.5 minutes 5 mg	- -

Sensitization

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Sulfuric acid	-	1	Known to be a human carcinogen.	A2	-	-

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : Causes severe burns.

Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Section 11. Toxicological information

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	6388.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Sulfuric acid	Acute LC50 42500 µg/L Marine water Acute LC50 42 ppm Fresh water	Crustaceans - Pandalus montagui - Adult Fish - Gambusia affinis - Adult	48 hours 96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care

Section 13. Disposal considerations

should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2796	UN2796	UN2796
UN proper shipping name	Battery fluid, acid (Sulfuric acid) RQ (Sulfuric acid)	Battery fluid, acid (Sulfuric acid)	Battery fluid, acid (Sulfuric acid)
Transport hazard class(es)	8 	8 	8 
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Additional information	**Reportable quantity** 2985.1 lbs / 1355.2 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	-	-

AERG : 157

DOT-RQ Details : Sulfuric acid 1000 lbs / 454 kg [66.262 gal / 250.83 L]

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: Sulfuric acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

Section 15. Regulatory information

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Sulfuric acid	1 - 50	Yes.	1000	66.3	1000	66.3

SARA 304 RQ : 2985.1 lbs / 1355.2 kg

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sulfuric acid	1 - 50	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Sulfuric acid	7664-93-9	1 - 50
Supplier notification	Sulfuric acid	7664-93-9	1 - 50

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Sulfuric acid

New York : The following components are listed: Sulfuric acid

New Jersey : The following components are listed: Sulfuric acid

Pennsylvania : The following components are listed: Sulfuric acid

California Prop. 65

No products were found.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 05/15/2015

Version : 1

Revised Section(s) : Not applicable.

Prepared by : KMK Regulatory Services Inc.

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

DRANO LIQUID® DRAIN CLEANER

Version *1*.2 Print Date 03/04/2015

Revision Date 02/24/2015 SDS Number 350000004298

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name : **DRANO LIQUID® DRAIN CLEANER**

Recommended use : Drain Cleaner

Manufacturer, importer, supplier : S.C. Johnson & Son, Inc.
1525 Howe Street
Racine WI 53403-2236

Telephone : +18005585252
Emergency telephone number : 24 Hour Medical Emergency Phone: (866)231-5406
24 Hour International Emergency Phone: (703)527-3887
24 Hour Transport Emergency Phone: (800)424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification

Hazard classification	Hazard category	Hazards identification
Corrosive to metals	Category 1	May be corrosive to metals.
Skin corrosion	Category 1B	Causes severe skin burns and eye damage.
Serious eye damage	Category 1	Causes serious eye damage.

Labelling
Hazard symbols
Corrosion

Signal word
Danger

Hazard statements
May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Immediately call a POISON CENTER or doctor/ physician.
Specific treatment (see supplemental first aid instructions on this label).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Wash contaminated clothing before reuse.
Absorb spillage to prevent material damage.
Store locked up.
Store in corrosive resistant polypropylene container with a resistant inner liner.
Store in corrosive resistant polyethylene container with a resistant inner liner.
Store in corrosive resistant stainless steel container with a resistant inner liner.
Store in corrosive resistant aluminium container with a resistant inner liner.
Dispose of contents/ container to an approved incineration plant.
Keep only in original container.
Wear protective gloves.
Do not breathe dust or mist.
Wash hands thoroughly after handling.

Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Sodium hypochlorite	7681-52-9	1.00 - 5.00
Sodium chloride	7647-14-5	1.00 - 5.00
Sodium hydroxide	1310-73-2	1.00 - 5.00
Sodium silicate	1344-09-8	1.00 - 5.00

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. Get medical attention immediately.

Skin contact : IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/ physician.

Inhalation : IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Container may melt and leak in heat of fire.

Special protective equipment for firefighters : Wear suitable protective clothing and gloves.

Further information : Wear full protective clothing and positive pressure self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear personal protective equipment.
Wash thoroughly after handling.

Environmental precautions : Outside of normal use, avoid release to the environment.

Methods and materials for containment and cleaning up : Dike large spills.
Clean residue from spill site.
Absorb spillage to prevent material damage.

7. HANDLING AND STORAGE

Handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing.
For personal protection see section 8.

Use only as directed.
KEEP OUT OF REACH OF CHILDREN AND PETS.
Avoid breathing vapours, mist or gas.
Wash thoroughly after handling.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container closed when not in use.
Store locked up.
Store in original container.
Store in corrosive resistant aluminium container with a resistant inner liner.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Non-standard units	Basis
Sodium hydroxide	1310-73-2	2 mg/m3	-	-	OSHA TWA
Sodium hydroxide	1310-73-2	2 mg/m3	-	-	ACGIH Ceiling

Personal protective equipment

Respiratory protection : Use only with adequate ventilation.
Substantial amounts of mist/vapors can be controlled with local exhaust ventilation or respiratory protection.

Hand protection : Rubber gloves

Eye protection : Wear splash-resistant Chemical goggles.

Skin and body protection : Protective footwear.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	natural colour
Odor	:	Bleach
Odour Threshold	:	No data available
pH	:	11.5 - 13.4
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 93 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper/lower flammability or explosive limits	:	Not applicable
Vapour pressure	:	similar to water
Vapour density	:	No data available
Relative density	:	1.09 g/cm3 at 25 °C
Solubility(ies)	:	completely soluble

Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available
Volatile Organic Compounds **Total VOC (wt. %)***	:	0 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified

:

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated.
Conditions to avoid	:	Direct sources of heat.
Incompatible materials	:	Do not mix with bleach or any other household cleaners. Strong bases
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

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Emergency Overview : Danger

Acute oral toxicity : LD50
estimated
> 5,000 mg/kg
Causes severe digestive tract burns.

Acute inhalation toxicity : No data available

Acute dermal toxicity : LD50
estimated
> 2,000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	-
Skin corrosion	Category 1B	-
Serious eye damage	Category 1	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc. may be more susceptible to irritating effects

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12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is expected when used according to label directions.

Toxicity to fish

Components	End point	Species	Value	Exposure time
Sodium hypochlorite	semi-static test LC50	Oncorhynchus mykiss (rainbow trout)	0.03 - < 0.19 mg/l	96 h
	NOEC		0.01 - < 0.1 mg/l	28 d
Sodium chloride	flow-through test LC50	Lepomis macrochirus	5,840 mg/l	96 h
	NOEC	Pimephales promelas (fathead minnow)	252 mg/l	33 d
Sodium hydroxide	LC50	Fish	35 - 189 mg/l	96 h
Sodium silicate	LC50	Oncorhynchus mykiss (rainbow trout)	260 - 310 mg/l	96 h

Toxicity to aquatic invertebrates

Components	End point	Species	Value	Exposure time
Sodium hypochlorite	static test EC50	Daphnia magna (Water flea)	0.033 - 0.044 mg/l	48 h

Sodium chloride	static test EC50	Daphnia magna (Water flea)	340.7 - 469.2 mg/l	48 h
	NOEC	Daphnia pulex	314 mg/l	21 d
Sodium hydroxide	EC50	Daphnia magna (Water flea)	40.4 mg/l	48 h
Sodium silicate	static test EC50	Daphnia magna (Water flea)	1,700 mg/l	48 h

Toxicity to aquatic plants

Components	End point	Species	Value	Exposure time
Sodium hypochlorite	EC50	Skeletonema costatum	0.095 mg/l	72 h
Sodium chloride	IC50	Algae	3,014 mg/l	72 h
Sodium hydroxide	No data available			
Sodium silicate	EC50	Desmodesmus subspicatus (green algae)	> 345.4 mg/l	72 h

Persistence and degradability

Component	Biodegradation	Exposure time	Summary
Sodium hypochlorite	No data available		
Sodium chloride	No data available		
Sodium hydroxide	No data available		
Sodium silicate	No data available		

Bioaccumulative potential

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Component	Bioconcentration factor (BCF)	Partition Coefficient n-Octanol/water (log)
Sodium hypochlorite	No data available	-3.42
Sodium chloride	1.09 QSAR	0.54
Sodium hydroxide	0.89 estimated	-1.38
Sodium silicate	No data available	No data available

Mobility

Component	End point	Value
Sodium hypochlorite	No data available	
Sodium chloride	No data available	
Sodium hydroxide	No data available	
Sodium silicate	No data available	

PBT and vPvB assessment

Component	Results
Sodium hypochlorite	Not fulfilling PBT and vPvB criteria
Sodium chloride	Not fulfilling PBT and vPvB criteria
Sodium hydroxide	Not fulfilling PBT and vPvB criteria
Sodium silicate	Not fulfilling PBT and vPvB criteria

Other adverse effects : None known.

13. DISPOSAL CONSIDERATIONS

Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

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	Land transport	Sea transport	Air transport
UN number	1760	1760	1760
UN proper shipping name	UN 1760 CORROSIVE LIQUID, N.O.S (Sodium hypochlorite), 8, III	UN 1760 CORROSIVE LIQUID, N.O.S (Sodium hypochlorite), 8, III	UN 1760 CORROSIVE LIQUID, N.O.S (Sodium hypochlorite), 8, III
Transport hazard class(es)	8	8	8
Packing group	III	III	III
Environmental hazards	-	-	-
Special precautions for user	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.

15. REGULATORY INFORMATION

Notification status : All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Notification status : All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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16. OTHER INFORMATION

HMIS Ratings

Health	3
Flammability	0
Reactivity	0

NFPA Ratings

Health	3
Fire	0
Reactivity	0
Special	-

This information is being provided in accordance with the Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.1200). The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

DRANO LIQUID® DRAIN CLEANER

Version *1*.2

Print Date 03/04/2015

Revision Date 02/24/2015

SDS Number 350000004298

DuPont™ DYMEL® 152a aerosol propellant

Version 2.1

Revision Date 03/16/2015 Ref. 130000000071

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ DYMEL® 152a aerosol propellant
Tradename/Synonym	:	Fluorocarbon 152a 1,1-Difluoroethane HFC-152a
Product Use	:	Propellant, For industrial use only.
Restrictions on use	:	Do not use product for anything outside of the above specified uses
Manufacturer/Supplier	:	DuPont 1007 Market Street Wilmington, DE 19898 United States of America
Product Information	:	+1-800-441-7515 (outside the U.S. +1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category

Flammable gases	Category 1
Gases under pressure	Compressed gas

Label content

Pictogram :

Signal word : Danger

Hazardous warnings : Extremely flammable gas.
Contains gas under pressure; may explode if heated.

Hazardous prevention measures : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.
Protect from sunlight. Store in a well-ventilated place.

Other hazards

Rapid evaporation of the liquid may cause frostbite., Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing., May cause cardiac arrhythmia., Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1,1-Difluoroethane	75-37-6	100 %

SECTION 4. FIRST AID MEASURES

General advice	:	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	:	Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.
Skin contact	:	Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
Eye contact	:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion	:	Is not considered a potential route of exposure.
Most important symptoms/effects, acute and delayed	:	Anaesthetic effects Light-headedness irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray, water fog, Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO2)
Unsuitable extinguishing media	:	No applicable data available.

Specific hazards	:	Flammable. Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. This substance's fire decomposition by-products will include hydrofluoric acid, and possibly carbonyl fluoride. Avoid contact with these materials, which are toxic and irritating. Evacuate personnel immediately in the event of a fire involving this substance. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapours or gases may travel considerable distances to ignition source and flash back.
Special protective equipment for firefighters	:	Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire. Exposure to decomposition products may be a hazard to health.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment. In accordance with local and national regulations.
Spill Cleanup	:	If this product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA Reportable Quantity is 100 lbs. (release of an Unlisted Hazardous Waste with the Characteristic of Ignitability). Evaporates. Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.
Accidental Release Measures	:	Wear self-contained breathing apparatus (SCBA).

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. Lines and equipment should be pre-tested with nitrogen using soapy water to detect leaks. Handle in accordance with good industrial hygiene and safety practice.
Handling (Physical Aspects)	:	Vapours are heavier than air and may spread along floors. Vapours may form flammable mixture with air. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. No sparking tools should be used. Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke.
Dust explosion class	:	Not applicable
Storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in original container. No materials to be especially mentioned. The product has an indefinite shelf life when stored properly.
Storage period	:	> 10 yr
Storage temperature	:	< 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical equipment rated Class I, Group D in Division 1 locations. In Division 2 locations, all spark-producing electrical equipment must be explosion-proof and rated Class I, Group D. Non-sparking motors need not be explosion-proof. Ground all equipment and cylinders before use.
Personal protective equipment		
Respiratory protection	:	For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Hand protection	:	Additional protection: Heat insulating gloves, and, Impervious gloves
Eye protection	:	Wear coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne

contact with this material.

Skin and body protection : Fire protective clothing (NOMEX) with antistatic control should be worn when handling this product.
Wear protective clothing which covers any other exposed areas of the arms, legs, and torso.

Protective measures : When using do not smoke. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines
Exposure Limit Values

1,1-Difluoroethane			
AEL *	(DUPONT)	1,000 ppm	8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical state : gaseous
Form : Compressed gas
Color : clear, colourless

Odor : slight, ether-like

Odor threshold : No applicable data available.

pH : neutral

Melting point/range : No applicable data available.

Boiling point/boiling range : Boiling point
-25 °C (-13 °F) at 1,013 hPa

Flash point : < -50 °C

Evaporation rate : No applicable data available.

Flammability (solid, gas)	:	No applicable data available.
Upper explosion limit	:	16.9 vol%
Lower explosion limit	:	3.9 vol%
Vapor pressure	:	5,960 hPa at 25 °C (77 °F)
Vapor density	:	2.4 at 25 °C (77 °F) (Air = 1.0)
Density	:	0.90 g/cm3 at 25 °C (77 °F) (as liquid)
Specific gravity (Relative density)	:	No applicable data available.
Water solubility	:	0.2 g/l at 25 °C (77 °F) at 1,013 hPa
Solubility(ies)	:	No applicable data available.
Partition coefficient: n-octanol/water	:	No applicable data available.
Auto-ignition temperature	:	No applicable data available.
Ignition temperature	:	454 °C
Decomposition temperature	:	No applicable data available.
Viscosity, kinematic	:	No applicable data available.
Viscosity	:	No applicable data available.
% Volatile	:	100 %

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	The product is chemically stable.

Possibility of hazardous reactions	:	Polymerization will not occur.
Conditions to avoid	:	Material is stable. Avoid open flames and high temperatures.
Incompatible materials	:	Incompatible products Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Decomposition products are hazardous., This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.

SECTION 11. TOXICOLOGICAL INFORMATION

1,1-Difluoroethane

Inhalation 4 h LC50	:	> 437500 ppm , Rat
Inhalation No Observed Adverse Effect Concentration	:	50000 ppm , Dog Cardiac sensitization
Inhalation Low Observed Adverse Effect Concentration (LOAEC)	:	150000 ppm , Dog Cardiac sensitization
Skin sensitization	:	Does not cause respiratory sensitisation., Rat
Repeated dose toxicity	:	Inhalation Rat - NOAEL: 67.485 mg/l No toxicologically significant effects were found.
Carcinogenicity	:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Tests on mammalian cell cultures showed mutagenic effects.
Reproductive toxicity	:	No toxicity to reproduction Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed no developmental toxicity.
Further information	:	Cardiac sensitisation threshold limit : 405000 mg/m3

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ than those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

1,1-Difluoroethane

96 h LC50	:	Fish 295.78 mg/l
96 h EC50	:	Algae 47.76 mg/l
48 h EC50	:	Daphnia (water flea) 146.7 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product	:	Can be used after re-conditioning. Reclaim by distillation, incinerate, or remove to permitted waste facility. Comply with applicable Federal, State/Provincial and Local Regulations. May be a RCRA Hazardous waste due to the ignitability characteristic.
Contaminated packaging	:	Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	:	1030
	Proper shipping name	:	1,1-Difluoroethane
	Class	:	2.1
	Labelling No.	:	2.1

DuPont™ DYMEL® 152a aerosol propellant

Version 2.1

Revision Date 03/16/2015 Ref. 130000000071

IATA_C	UN number	:	1030
	Proper shipping name	:	1,1-Difluoroethane
	Class	:	2.1
	Labelling No.	:	2.1
IMDG	UN number	:	1030
	Proper shipping name	:	1,1-DIFLUOROETHANE
	Class	:	2.1
	Labelling No.	:	2.1

SECTION 15. REGULATORY INFORMATION

TSCA	:	On the inventory, or in compliance with the inventory
SARA 313 Regulated Chemical(s)	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
NJ Right to Know Regulated Chemical(s)	:	Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): 1,1-Difluoroethane
California Prop. 65	:	Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

DYMEL is a registered trademark of E. I. duPont de Nemours and Company
The DuPont Oval Logo, DuPont™, and The miracles of science™ are trademarks or registered trademarks of E.I. du Pont de Nemours and Company or its affiliates.
Before use read DuPont's safety information. For further information contact the local DuPont office or DuPont's nominated distributors.

Revision Date : 03/16/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

Safety Data Sheet

DuPont™ Freon® 22 Refrigerant

Version 2.1

Revision Date 03/16/2015 Ref. 130000024323

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ Freon® 22 Refrigerant
Tradename/Synonym	:	R-22 Freon® 22 CHLORODIFLUOROMETHANE HCFC-22 DYMEL® 22
Product Grade/Type	:	ASHRAE Refrigerant number designation: R-22
Product Use	:	Refrigerant, For industrial use only.
Restrictions on use	:	Do not use product for anything outside of the above specified uses
Manufacturer/Supplier	:	DuPont 1007 Market Street Wilmington, DE 19898 United States of America
Product Information	:	+1-800-441-7515 (outside the U.S. +1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category

Gases under pressure Liquefied gas

DuPont™ Freon® 22 Refrigerant

Version 2.1

Revision Date 03/16/2015 Ref. 130000024323

Label content

Pictogram :

Signal word : Warning

Hazardous warnings : Contains gas under pressure; may explode if heated.

Hazardous prevention measures : Protect from sunlight. Store in a well-ventilated place.

Other hazards

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing., Rapid evaporation of the liquid may cause frostbite., Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects., May cause cardiac arrhythmia.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Chlorodifluoromethane (HCFC-22)	75-45-6	100 %

SECTION 4. FIRST AID MEASURES

General advice	:	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	:	Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Call a physician.
Skin contact	:	Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
Eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion	:	Is not considered a potential route of exposure.
Most important symptoms/effects, acute and delayed	:	No applicable data available.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	As appropriate for combustibles in area. Extinguishant for other burning material in area is sufficient to stop burning.
Unsuitable extinguishing media	:	No applicable data available.

Specific hazards	:	Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Decomposition may occur. Contact of welding or soldering torch flame with high concentrations of refrigerant can result in visible changes in the size and colour of the torch flame. This flame effect will only occur in concentrations of product well above the recommended exposure limit. Therefore stop all work and ventilate to disperse refrigerant vapors from the work area before using any open flames. This substance is not flammable in air at temperatures up to 100 deg. C (212 deg. F) at atmospheric pressure. However, mixtures of this substance with high concentrations of air at elevated pressure and/or temperature can become combustible in the presence of an ignition source. This substance can also become combustible in an oxygen enriched environment (oxygen concentrations greater than that in air). Whether a mixture containing this substance and air, or this substance in an oxygen enriched atmosphere become combustible depends on the inter-relationship of 1) the temperature 2) the pressure, and 3) the proportion of oxygen in the mixture. In general, this substance should not be allowed to exist with air above atmospheric pressure or at high temperatures; or in an oxygen enriched environment. For example this substance should NOT be mixed with air under pressure for leak testing or other purposes. Experimental data have also been reported which indicate combustibility of this substance in the presence of certain concentrations of chlorine.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Wear neoprene gloves during cleaning up work after a fire.
Further information	:	Self-contained breathing apparatus (SCBA) is required if containers rupture and contents are released under fire conditions. Cool containers/tanks with water spray. Water runoff should be contained and neutralized prior to release.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.

Spill Cleanup	:	Evaporates. Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.
Accidental Release Measures	:	Ventilate area, especially low or enclosed places where heavy vapours might collect. Avoid open flames and high temperatures. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. The product should not be mixed with air for leak testing or used with air for any other purpose above atmospheric pressure. Contact with chlorine or other strong oxidizing agents should also be avoided. Handle in accordance with good industrial hygiene and safety practice.
Handling (Physical Aspects)	:	No special protective measures against fire required.
Dust explosion class	:	No applicable data available.
Storage	:	Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Avoid area where salt or other corrosive materials are present. The product has an indefinite shelf life when stored properly.
Storage period	:	> 10 yr
Storage temperature	:	< 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Ensure adequate ventilation, especially in confined areas. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places.
Personal protective equipment		
Respiratory protection	:	Under normal manufacturing conditions, no respiratory protection is required when using this product. For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Hand protection	:	Additional protection: Impervious gloves
Hand protection	:	Additional protection: Protective gloves complying with EN 374., or, US OSHA guidelines
Eye protection	:	Safety glasses with side-shields Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Protective measures	:	Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines
Exposure Limit Values

Chlorodifluoromethane			
TLV	(ACGIH)	1,000 ppm	TWA

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance		
Physical state	:	gaseous
Form	:	Liquefied gas
Color	:	clear
Odor	:	slight, ether-like
Odor threshold	:	No applicable data available.
pH	:	neutral

Melting point/range	:	No applicable data available.
Boiling point/boiling range	:	Boiling point -40.8 °C (-41.4 °F) at 1,013 hPa
Flash point	:	does not flash
Evaporation rate	:	> 1 (CCL4=1.0)
Flammability (solid, gas)	:	No applicable data available.
Upper explosion limit	:	Method: None per ASTM E681
Lower explosion limit	:	Method: None per ASTM E681
Vapor pressure	:	10,439.0 hPa at 25 °C (77 °F)
Vapor density	:	3.0 at 25°C (77°F) and 1013 hPa (Air=1.0)
Density	:	1.191 g/cm3 at 25 °C (77 °F) (as liquid)
Specific gravity (Relative density)	:	1.19 at 25 °C (77 °F)
Water solubility	:	2.6 g/l at 25 °C (77 °F)
Solubility(ies)	:	No applicable data available.
Partition coefficient: n-octanol/water	:	No applicable data available.
Auto-ignition temperature	:	No applicable data available.
Decomposition temperature	:	632 °C
Viscosity, kinematic	:	No applicable data available.
Viscosity	:	No applicable data available.
% Volatile	:	100 %

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Decomposes on heating.
Chemical stability	:	Stable at normal temperatures and storage conditions.
Possibility of hazardous reactions	:	Polymerization will not occur.Other burning materials may cause HCFC 22 to burn weakly.Chlorodifluoromethane is not flammable at ambient temperatures and atmospheric pressure. However, chlorodifluoromethane has been shown in tests to be combustible at pressures as low as 60 psig at ambient temperature when mixed with air at concentrations of 65 volume % air. Experimental data have also been reported which indicate combustibility of HCFC 22 in the presence of certain concentrations of chlorine.
Conditions to avoid	:	The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions. Avoid open flames and high temperatures.
Incompatible materials	:	Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Decomposition products are hazardous., This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides., These materials are toxic and irritating., Avoid contact with decomposition products

SECTION 11. TOXICOLOGICAL INFORMATION

Chlorodifluoromethane (HCFC-22)

Inhalation 4 h LC50	:	> 150000 ppm , Mouse
Inhalation Low Observed Adverse Effect Concentration (LOAEC)	:	50000 ppm , Dog Cardiac sensitization
Inhalation No Observed Adverse Effect Concentration	:	25000 ppm , Dog Cardiac sensitization
Skin irritation	:	Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation	:	Not expected to cause eye irritation based on expert review of the properties of the substance.
Skin sensitization	:	Not expected to cause sensitization based on expert review of the properties of the substance.
Repeated dose toxicity	:	Inhalation Mouse - gas No toxicologically significant effects were found.
Carcinogenicity	:	Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Experiments showed mutagenic effects in cultured bacterial cells.
Reproductive toxicity	:	No toxicity to reproduction
Teratogenicity	:	Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ than those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Chlorodifluoromethane (HCFC-22)

96 h LC50	:	Zebra fish 777 mg/l
96 h EC50	:	Algae 250 mg/l

48 h EC50	:	Daphnia magna (Water flea) 433 mg/l

Environmental Fate

Chlorodifluoromethane (HCFC-22)

Biodegradability	:	According to the results of tests of biodegradability this product is not readily biodegradable.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product	:	Can be used after re-conditioning. Recover, reclaim by distillation, or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.
Contaminated packaging	:	Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	:	1018
	Proper shipping name	:	Chlorodifluoromethane
	Class	:	2.2
	Labelling No.	:	2.2
IATA_C	UN number	:	1018
	Proper shipping name	:	Chlorodifluoromethane
	Class	:	2.2
	Labelling No.	:	2.2
IMDG	UN number	:	1018
	Proper shipping name	:	CHLORODIFLUOROMETHANE
	Class	:	2.2
	Labelling No.	:	2.2

SECTION 15. REGULATORY INFORMATION

DuPont™ Freon® 22 Refrigerant

Version 2.1

Revision Date 03/16/2015 Ref. 130000024323

TSCA	:	On the inventory, or in compliance with the inventory
SARA 313 Regulated Chemical(s)	:	Chlorodifluoromethane
PA Right to Know Regulated Chemical(s)	:	Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Chlorodifluoromethane
NJ Right to Know Regulated Chemical(s)	:	Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Chlorodifluoromethane
California Prop. 65	:	Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

Freon is a registered trademark of E. I. duPont de Nemours & Company, Inc.
® DuPont's registered trademark
Before use read DuPont's safety information. For further information contact the local DuPont office or DuPont's nominated distributors.

Revision Date : 03/16/2015

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Significant change from previous version is denoted with a double bar.

Material Safety Data Sheet

[Home] [Manufacturer] [Part Number] [NSN] [Help]

SECTION I - Material Identity

Item Name	AEROSOL DUSTER
Part Number/Trade Name	DUST OFF (MODEL DPSXL) DYMEL 152A
National Stock Number	7930011351379
CAGE Code	FALCO
Part Number Indicator	A
MSDS Number	191846
HAZ Code	A

SECTION II - Manufacturer's Information

Manufacturer Name	FALCON/DUPONT
Street	25 CHUBB WAY
City	BRANCHBURG
State	NJ
Country	US
Zip Code	08878
Emergency Phone	800-424-9300 CHEMTREC
Information Phone	908-707-4900/800-441-9442

MSDS Preparer's Information

Date MSDS Prepared/Revised	27MAR02
Active Indicator	N

Alternate Vendors

SECTION III - Physical/Chemical Characteristics

Appearance/Odor	CLEAR, COLORLESS; SLIGHT ETHEREAL ODOR
Boiling Point	-13 F
Vapor Pressure	87
Vapor Density	2.4 AT 77F
Specific Gravity	1
Solubility in Water	0.28 WT AT 25 C
Container Pressure Code	2
Temperature Code	4
Product State Code	G

SECTION IV - Fire and Explosion Hazard Data

Flash Point	58
Flash Point Method	UNK
Lower Explosion Limit	-3.9
Upper Explosion Limit	-16.9
Extinguishing Media	WATER SPRAY, WATER FOG, DRY CHEMICAL

Special Fire Fighting Procedures	KEEP CONTAINER COOL W/WATER SPRAY. IF GAS EXITING CONTAINER IGNITES, STOP FLOW OF GAS. DO NOT PUT OUT FIRE UNLESS LEAK CAN BE STOPPED IMMEDIATELY.
Unusual Fire/Explosion Hazards	WEAR SCBA IF CONTAINERS ARE RUPTURED AND CONTENTS ARE RELEASED UNDER FIRE CONDITIONS.

SECTION V - Reactivity Data

Stability	YES
Stability Conditions to Avoid	OPEN FLAMES & HIGH TEMPERATURES
Materials to Avoid	ALKALINE OR ALKALINE EARTH MATERIALS
Hazardous Decomposition Products	PRODUCTS ARE DANGEROUS FORMING HYDROFLUORIC ACID AND POSSIBLE CARBONYL FLUORIDE
Hazardous Polymerization	NO
Polymerization Conditions to Avoid	WILL NOT OCCUR

SECTION VI - Health Hazard Data

Route of Entry: Skin	YES
Route of Entry: Ingestion	YES
Route of Entry: Inhalation	YES
Health Hazards - Acute and Chronic	SKIN: LIQUID CONTACT CAN CAUSE FROST BITE INHALE: HIGH CONCENTRATIONS CAN CASUE HEART IRREGULARITES, INCONSCIOUSNESS OR DEATH. INTENTIONAL MISUSE OR DELIBERATE INHALATION MAY CAUSE DEATH WITHOUT WARNING.
Carcinogenity: NTP	NO
Carcinogenity: IARC	NO
Carcinogenity: OSHA	NO
Explanation of Carcinogenity	NONE
Symptoms of Overexposure	SKIN: MAY CAUSE FROSTBITE INHALE: NAUSEA,HEADACHE,WEAKNESS,TEMPORARY CNS DEPRESSION; DIZZINESS,HEADACHE,CONFUSION,INCOORDINATION & LOSS OF CONSCIOUSNESS. HIGH EXPOSURE: MINOR LUNG IRRITATIONS; COUGH,DISCOMFORT,DIFFICULTY BREATHING,SHORTNESS OF BREATH,HEART PALIPATIONS,INADEQUATE CIRCULATION,ABNORMAL KIDNEY FUNCTION.
Medical Cond. Aggrevated by Exposure	PREEXISTING DISEASES OF THE CENTRAL NERVOUS SYSTEM (CNS) OF CARDIOVASCULAR SYSTEM MAY HAVE INCREASED SUSCEPIBILITY TO THE TOXICITY OF EXCESSIVE EXPOSURES
Emergency/First Aid Procedures	EYE: IMMEDIATELY FLUSH W/LG AMTS OF WATER FOR AT LEAST 15 MIN. WHILE HOLDING THE EYELIDS OPEN. SKIN: IMMED. REMOVE CONTAMINATED CLOTHING;WASH SKIN W/LG AMTS OF WATER FOR AT LEAST 15 MIN. TREAT FROSTBITE W/GENTLE WARMING AFFECTED AREA IF NECESSARY. INHALE: MOVE VICTIM TO FRESH AIR & RESTORE BREATHING IF NECESSARY. STAY W/VICTIM UNTIL ARRIVAL EMEGENCY AID. INGEST: CONTACT POISON CENTER IMMEDIATELY!

SECTION VII - Precautions for Safe Handling and Use

Steps if Material Released/Spilled	NONE LISTED
Waste Disposal Method	DISPOSE OF IN ACCORDANCE TO ALL FEDERAL, STATE AND LOCAL LAW.
Handling and Storage Precautions	NONE LISTED

SECTION VIII - Control Measures

Respiratory Protection	NONE LISTED BY MANUFACTURER

Ventilation..... NONE GIVEN
Protective Gloves..... NONE GIVEN
Eye Protection..... NONE GIVEN
Other Protective Equipment..... NONE GIVEN
Work Hygenic Practices..... NONE GIVEN
Disposal Code..... O

SECTION IX - Label Data

Protect Eye..... YES
Protect Skin..... YES
Protect Respiratory..... YES
Chronic Indicator..... NO
Contact Code..... SLIGHT
Fire Code..... UNKNOWN
Health Code..... UNKNOWN
React Code..... UNKNOWN
Specific Hazard and Precaution..... NO TARGET ORGANS LISTED FOR CHRONIC EXPOSURES

SECTION X - Transportation Data

SECTION XI - Site Specific/Reporting Information

Volatile Organic Compounds (P/G)..... 0
Volatile Organic Compounds (G/L)..... 0

SECTION XII - Ingredients/Identity Information

Ingredient #..... 01
Ingredient Name..... 1,1-DIFLUOROETHANE
CAS Number..... 75376
Proprietary..... NO
Percent..... 100
OSHA PEL..... N/E
ACGIH TLV..... N/E
Recommended Limit..... NONE SPECIFIED

NOTICE: For additional information, contact BIOENVIRONMENTAL

MSDS Product and Company Name

MSDS Date: 01/01/1987 MSDS Num: BBTJZ

Submitter: F BT LIIN: 00F005854 Tech Review: 01/14/1988 Status CD: C

Product ID: EPOXY/POLYAMIDE ADHESIVE, PC-7 - MFN: 01

Article: N Kit Part: N

Cage: FO146

Responsible Party

Name: PROTECTIVE COATING CO/ALLENTOWN, PA 18103

City: N/P State: NK Zip: 00000

Country: NK

Emergency Phone Number: (215) 432-3543

Radioactive Ind: N

Preparer's Name: N/P

Proprietary Ind: N Review Ind: Y

Published: Y Special Project CD: N

Company Information

Cage:FO146 Name:PROTECTIVE COATING CO/ALLENTOWN, PA 18103

Address:UNKNOWN

City:UNKNOWN State:NK Zip:00000

Country:NK Phone:UNKNOWN

Ingredients

Cas: Code: X RTECS #: Code: X

Name: EPOXY (<50-60%)

% Text: <60% Environmental Wt:

Other REC Limits: N/P

OSHA PEL: N/P Code: OSHA STEL: Code:

ACGIH TLV: N/K Code: M ACGIH STEL: N/P Code:

EPA Rpt Qty: DOT Rpt Qty:

Ozone Depleting Chemical:

Cas: Code: X RTECS #: Code: X

Name: POLYAMIDE RESIN (<50-60%)

% Text: <60% Environmental Wt:

Other REC Limits: N/P

OSHA PEL: N/P Code: OSHA STEL: Code:

ACGIH TLV: N/K Code: M ACGIH STEL: N/P Code:

EPA Rpt Qty: DOT Rpt Qty:

Ozone Depleting Chemical:

Cas: Code: X RTECS #: Code: X

Name: HYDROCARBON RESINS (<15-20%)

% Text: <20% Environmental Wt:

Other REC Limits: N/P

OSHA PEL: N/P	Code:	OSHA STEL:	Code:
ACGIH TLV: N/K	Code: M	ACGIH STEL: N/P	Code:
EPA Rpt Qty:		DOT Rpt Qty:	

Ozone Depleting Chemical:

Cas: Code: X RTECS #: Code: X
Name: PLASTICIZERS (<15-20%)
% Text: <20% Environmental Wt:
Other REC Limits: N/P

OSHA PEL: N/P	Code:	OSHA STEL:	Code:
ACGIH TLV: N/K	Code: M	ACGIH STEL: N/P	Code:
EPA Rpt Qty:		DOT Rpt Qty:	

Ozone Depleting Chemical:

Cas: 12001-29-5 Code: M RTECS #: CI6478500 Code: M
Name: ASBESTOS, CHRYSOTILE
% Text: 30% Environmental Wt:
Other REC Limits: N/P

OSHA PEL: 0.2 FIBERS/CC	Code: M	OSHA STEL:	Code:
ACGIH TLV: 2 FIBERS/CC; A1;9192	Code: M	ACGIH STEL: N/P	Code:
EPA Rpt Qty:		DOT Rpt Qty:	

Ozone Depleting Chemical: N

Health Hazards Information

LD50 LC50 MixtureN/P
Route Of Entry Inds -N/P Skin:N/P Ingestion:N/P
Inhalation:
Carcinogenicity Inds - NTP:N/P IARC:N/P OSHA:N/P

Health Hazards Acute And Chronic

N/P

Explanation Of Carcinogenicity

N/P

Signs And Symptions Of Overexposure

SKIN: MODERATE IRRITANT & SENSITIZER POSSIBLE.

Medical Cond Aggravated By Exposure

N/P

First Aid

AVOID SKIN & EYES CONTACT. SKIN: WASH WITH SOAP & WATER. EYES: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

Spill Release Procedures

PE UP AREA WITH DISPOSABLE RAG.

Neutralizing Agent

N/P

Waste Disposal Methods

NORMAL DISPOSAL METHOD.

Handling And Storage Precautions

GOOD HOUSEKEEPING PRODECURES.

Other Precautions

N/K

Fire and Explosion Hazard Information

Flash Point Method: N/P

Flash Point: Flash Point Text: >200F

Autoignition Temp: Autoignition Temp Text: N/A

Lower Limits: N/K Upper Limits: N/K

Extinguishing Media

FOAM, CO2, DRY CHEMICAL, WATER

Fire Fighting Procedures

IRRITATING GASES FROM DECOMPOSITION MAY BE PRESENT.

Unusual Fire/Explosion Hazard

NONE

Control Measures

Respiratory Protection

USE NIOSH APPROVED DUST MASK.

Ventilation

GOOD GENERAL VENTILATION ADEQUATE.

Protective Gloves

NONE REQUIRED

Eye Protection

NONE REQUIRED

Other Protective Equipment

NONE REQUIRED

Work Hygienic Practices

N/P

Supplemental Safety and Health

MSDS UNDATED. WT/GAL: 9 LBS/GAL.

Physical and Chemical Properties

HCC: NRC/State LIC No:

Net Prop WT For Ammo:

Boiling Point:		**B.P. Text:**	DECOMPOSES
Melt/Freeze Pt:		**M.P/F.P Text:**	N/A
Decomp Temp:		**Decomp Text:**	N/A
Vapor Pres:	N/K	**Vapor Density:**	>AIR
Volatile Org Content %:		**Spec Gravity:**	N/K
VOC Pounds/Gallon:		**PH:**	N/P
VOC Grams/Liter:		**Viscosity:**	N/P
Evaporation Rate & Reference:	SLOWER THAN ETHER		
Solubility in Water:	N/K		
Appearance and Odor:	N/K		
Percent Volatiles by Volume:	NONE	**Corrosion Rate:**	N/P

Reactivity Information

Stability Indicator: YES
Stability Condition To Avoid: N/K
Materials To Avoid: STRONG OXIDIZING AGENTS
Hazardous Decomposition Products: N/K
Hazardous Polymerization Indicator: NO
Conditions To Avoid Polymerization: N/K

Toxicological Information

Toxicological Information: N/P

Toxicological Information

Ecological: N/P

MSDS Transport Information

Transport Information: N/P

Regulatory Information

Sara Title III Information: N/P
Federal Regulatory Information: N/P
State Regulatory Information: N/P

Other Information

Other Information: N/P

MSDS Hazcom Label

Product ID: EPOXY/POLYAMIDE ADHESIVE, PC-7
Cage: FO146 Assigned IND: Y
Company Name: PROTECTIVE COATING CO/ALLENTOWN, PA 18103
Street: UNKNOWN PO Box:
City: UNKNOWN State: NK Zipcode: 00000
Country: NK
Health Emergency Phone: 215) 432-3543
Label Required IND: Y Date Of Label Review: 12/16/1998
Status Code: C MFG Label NO:
Label Date: 12/16/1998 Year Procured:
Origination Code: G Chronic Hazard IND: N/P
Eye Protection IND: N/P Skin Protection IND: N/P
Signal Word: N/P Respiratory Protection IND: N/P
Health Hazard:
Contact Hazard:
Fire Hazard:
Reactivity Hazard:

Hazard And Precautions

SKIN: MODERATE IRRITANT & SENSITIZER POSSIBLE.

Safety Data Sheet

Printing date 11/06/2014 Revised On 11/06/2014

1 Identification of the substance and manufacturer

Trade name: **EQUIPMENT YELLOW**

Product code: BD12190000
Product category PC9a Paints and coatings.
Manufacturer/Supplier: Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178
Phone: 815-895-9101 www.seymourpaint.com
Emergency telephone number: CHEMTEL 1-800-255-3924, 813-248-0585 *if located outside the U.S.*

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Carc. 2	H351	Suspected of causing cancer.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.

GHS Hazard pictograms

GHS02 GHS04 GHS07 GHS08

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Suspected of causing cancer.
May cause drowsiness or dizziness.

Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	20.6%
74-98-6	propane	15.82%
106-97-8	n-butane	9.29%
7727-43-7	barium sulphate, natural	8.69%
108-10-1	methyl isobutyl ketone	5.64%
2807-30-9	Glycol Ether EP	5.56%
107-87-9	Methyl Propyl Ketone	2.88%
108-65-6	PM acetate	2.56%
1330-20-7	xylene (mix)	2.52%
110-19-0	isobutyl acetate	1.63%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness

(Contd. on page 2)

Safety Data Sheet

Trade name: EQUIPMENT YELLOW

(Contd. of page 1)

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.
Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm Long-term value: (1188) NIC-594 mg/m³, (500) NIC-250 ppm BEI
74-98-6 propane	
PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F
106-97-8 n-butane	
REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm
7727-43-7 barium sulphate, natural	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E
108-10-1 methyl isobutyl ketone	
PEL (USA)	Long-term value: 410 mg/m³, 100 ppm
REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI
107-87-9 Methyl Propyl Ketone	
PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm
108-65-6 PM acetate	
WEEL (USA)	Long-term value: 50 ppm
1330-20-7 xylene (mix)	
PEL (USA)	Long-term value: 435 mg/m³, 100 ppm
REL (USA)	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV (USA)	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI
110-19-0 isobutyl acetate	
PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Long-term value: 713 mg/m³, 150 ppm

(Contd. on page 3)

Safety Data Sheet

Trade name: EQUIPMENT YELLOW

(Contd. of page 2)

Ingredients with biological limit values:		
67-64-1 Acetone		
BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)	
108-10-1 methyl isobutyl ketone		
BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK	
1330-20-7 xylene (mix)		
BEI (USA)	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids	

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47 °F)

Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapour density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.

VOC content: 498.7 g/l / 4.16 lb/gl
VOC content (less exempt solvents): 47.0 %
MIR Value: 1.12

Solids content: 31.9 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:		
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
108-10-1 methyl isobutyl ketone		
Oral	LD50	2100 mg/kg (rat)
Dermal	LD50	16000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

(Contd. on page 4)

Safety Data Sheet

Trade name: EQUIPMENT YELLOW

(Contd. of page 3)

108-65-6 PM acetate		
Oral	LD50	8500 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
1330-20-7 xylene (mix)		
Oral	LD50	8700 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rbt)
Inhalative	LC50/4 h	6350 mg/l (rat)
110-19-0 isobutyl acetate		
Oral	LD50	4763 mg/kg (rbt)

Information on toxicological effects: No data available.
Sensitization: No sensitizing effects known.

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
108-10-1	methyl isobutyl ketone	2B
1330-20-7	xylene (mix)	3

NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulphate, natural
108-10-1	methyl isobutyl ketone
1330-20-7	xylene (mix)

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
108-10-1	methyl isobutyl ketone
13463-67-7	titanium dioxide
100-41-4	ethyl benzene

CANADIAN ENVIRONMENTAL PROTECTION ACT: All hazardous ingredients for this product appear on the Canadian Domestice Substance List.

EPA:		
67-64-1	Acetone	I
7727-43-7	barium sulphate, natural	D, CBD(inh), NL(oral)
108-10-1	methyl isobutyl ketone	I
1330-20-7	xylene (mix)	I
110-19-0	isobutyl acetate	D

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 11/06/2014 / -

VICTOR

MATERIAL SAFETY DATA SHEET

CHEMTREC Phone No. (800) 424 – 9300

Date Prepared: January 1, 1991
Date Revised: September 1, 2012

Form Number: 0056-1344
Core Part No: 1440-0210, 0211, 0215, 0216, 0217
1440-0220, 0221, 0222, 0447

Victor Technologies International Inc.
2800 Airport Road
Denton, Texas 76207
(940) 566 - 2000
Fax: (940) 381 - 1265

This MSDS is based on air/fuel or oxy/fuel process. There may be other cautions for electric process.

Material Safety Data Sheet

SECTION I - MATERIAL IDENTIFICATION

Product Name: ER 70S6 Welding Wire (1440-0210)

Product use: Non-ferrous welding wire for surfacing applications.

SECTION II - HAZARDOUS INGREDIENTS

OSHA Hazardous Components (29 CFR 1910.1200) EXPOSURE LIMITS: 8 HR. TWA

		OSHA PEL	ACGIH TLV
Iron, Fe	CAS# 7439-89-6	10.0 mg/m3	10.0 mg/m3
Manganese, Mn	CAS# 7439-96-5	1.0 mg/m3	1.0 mg/m3
Silicon, Si	CAS# 7440-21-3	10.0 mg/m3	10.0 mg/m3
Copper, Cu	CAS# 7440-50-8	1.0 mg/m3	1.0 mg/m3 Dust

SECTION III - HAZARDS IDENTIFICATIONS

EMERGENCY OVERVIEW: Dust and/or fumes irritating to eyes and respiratory tract. Can decompose at high temperatures forming toxic gases.

POTENTIAL HEALTH EFFECTS:

INHALATION: Dust and fumes moderately irritating to eyes and respiratory tracts. Prolonged or repeated inhalation may cause lung damage. Short term exposure may

cause dizziness and nausea.

EYE CONTACT: Dust and fumes may cause eye irritation.

SKIN CONTACT: No hazard in normal industrial use

INGESTION: Irritating to mouth, throat and stomach.

CHRONIC: Prolonged or repeated inhalation may cause lung damage (siderosis) and effect the central nervous system (contains Manganese).

CARCINOGENICITY: Listed as non carcinogenic.

SECTION IV - FIRST AID MEASURES

INHALATION: If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

EYE CONTACT: Immediately flush eyes with plenty of water. Get medical attention if irritation persists. If exposed to fumes or vapors, flush eyes with large amounts of water for at least 15 minutes.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention.

SECTION V - FIRE FIGHTING MEASURES

Flashpoint (Method): Non-Flammable material.

Flammable Limits: **Lower:** NA **Upper:** NA

Auto ignition Temperature: NA

GENERAL HAZARD: Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

FIRE FIGHTING INSTRUCTIONS: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

EXTINGUISHING MEDIA: Use dry sand or earth to smother fire.

HAZARDOUS COMBUSTION PRODUCTS: Smoke, oxides of carbon, and metal alloys.

SECTION VI - ACCIDENTAL RELEASE MEASURES

LAND SPILL: Vacuum or sweep up material and place in a disposal container. Collect scrap for remelting. Do not flush into sewer.

WATER SPILL: Collect and place in chemical waste container for disposal. Do not flush to sewer.

SECTION VII - HANDLING AND STORAGE

Wash thoroughly after handling. Use only in a well ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Store in a cool dry place.

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

PERSONAL PROTECTION: If TLV exceeded, NIOSH approved fume respirator recommended.

PROTECTIVE CLOTHING: Wear safety glasses with side shields (or goggles) and a face shield. When material is heated, wear gloves to protect against thermal burns.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	NA	**Vapor Density (Air=1):**	NA
Specific Gravity:	8.3	**Evaporation Rate**	
Solubility in Water:	Insoluble	**(n-Butyl Acetate=1):**	NA
pH:	NA	**Freezing Point:**	NA

Boiling Point: Decomposes

Appearance & Odor: Solid wire. No odor.

SECTION X - STABILITY AND REACTIVITY

GENERAL: Stable

INCOMPATIBLE MATERIALS: Strong acids.

CONDITIONS TO AVOID: None.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION XI - TOXICOLOGICAL INFORMATION

No data available.

SECTION XII - ECOLOGICAL INFORMATION

No data available

SECTION XIII - DISPOSAL CONSIDERATIONS

Classification required before disposal. Follow all federal, state and local requirements.

SECTION XIV – TRANSPORTATION

SHIPPING NAME: ER70S6 Welding Wire

HAZARD CLASS: None

IDENTIFICATION NUMBER: None

DOT Emergency Guide #: None

Reportable Quantity (RQ): None

SECTION XV - REGULATORY INFORMATION

TSCA (Toxic Substance Control Act) All components are listed on the TSCA inventory.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act):

None. We recommend that you contact local authorities for other reporting requirements.

SARA TITLE III (Superfund Amendments and Reauthorization Act):

311/312 Hazard Categories: Acute, Chronic

313 Reportable Ingredients: Manganese compounds (2%), Copper compounds (0.5%)

SECTION XVI - OTHER INFORMATION

Brazing rod or wire is a non-hazardous solid at ambient temperature. Hazards, as defined by OSHA 29 CFR 1910.1200, may result from fume or dust generated during brazing. The composition and quantity of both are dependent upon the metal being brazed and the procedures being used. Other conditions which influence the hazards associated with brazing include the filler material, the coatings on the metal, the number of people being exposed, and the quality of the ventilation. It is recommended that the composition of the fumes, gases, and dust to which the workers are exposed be classified by sampling the air in the worker's breathing zone and performing a hazard evaluation. See ANSI/AWS f1.1 available from the American Welding Society, P.O. Box 351040, Miami, FL 33135.

PREPARED BY: **TALEM, Inc. - Technical Services Division** **(817) 335 - 1186**

FOOTNOTES:

NA - Not Applicable NE - Data Not Established CS - Cancer Suspect Agent OX - Oxidizer ND - No Data Cor - Corrosive

CALC - Calculated EST - Estimated STEL - Short Term Exposure Limit TLV - Threshold Limit Value

PEL - Permissible Exposure Limit TWA - Time Weighted Average, 8 hours

Material Safety Data Sheet

MSDS#: 198-17

Sanford Corporation
2711 Washington Boulevard
Bellwood, IL 60104

Telephone Number: 1-800-323-0749
Initiated By: Susan Nyborg
Date of Last Revision: June 1, 2001
Medical Emergency No: 1-800-228-5635

Section One: Product Identification

Product Name: Expo® Dry Erase Markers - Bullet, Chisel, and Ultra Fine Point

Colors: Black, Red, Blue, Green, Yellow, Orange, Brown, Purple

Sanford Corporation is a member of The Art and Creative Materials Institute, Inc. This product is certified by the Institute to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D4236 and is labeled with the AP Non-Toxic Seal. Products bearing the AP Approved Product Seal of The Art and Creative Materials Institute, Inc. are certified in a program of toxicological evaluation by a medical expert, subject to review by the Institute Toxicology Advisory Board, to contain no materials in sufficient quantities to be toxic or injurious to humans, or to cause acute or chronic health problems.

Section Two: Composition

Pigments, resins, methyl isobutyl ketone (108-10-1), n-butyl acetate (123-86-4)

Section Three: Physical and Chemical Characteristics

	For methyl isobutyl ketone:
Boiling Point:	237-243°F at 760 mm Hg
Vapor Pressure (mm Hg):	16 mm Hg at 20°C
Specific Gravity:	0.800-0.803 at 68°F
Solubility in Water:	Not available
Appearance and Odor:	Mobile clear liquid; strong ketone odor
Evaporation Rate:	1.64 (n-butyl acetate = 1)

Section Four: Fire and Explosion Hazard Data

Flash Point (Method Used):	60°F (TCC) for methyl isobutyl ketone			
Flammability Limits (% by volume):	Lower:	1.4%	Upper:	Not available
Extinguishing Medium:	N/A			
Special Fire Fighting Procedures:	N/A			
Unusual Fire and Explosion Hazards:	N/A			

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Section Five: Reactivity Data

Stability:	Stable
Conditions to Avoid:	None known
Chemical Incompatibility:	None known
Hazardous Decomposition:	None known
Hazardous Polymerization:	Will not occur.

Section Six: Health Hazard Data

Chemicals Listed as Carcinogens or Potential Carcinogen:

IARC Monographs:	No
National Toxicology Program:	No
OSHA Regulated:	No

This product is considered safe under normal use conditions.

Section Seven: Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spill:	Wipe up with absorbent material.
Waste Disposal Method:	Dispose in accordance with Federal, State, and Local Regulations.
Precautions to Be Taken in Handling and Storage:	Do not shake marker. Keep cap on marker when not in use. Store markers horizontally.
Other Precautions:	None

Section Eight: Personal Protection and Exposure Control Measures

Eye Protection:	None under normal use conditions.
Skin Protection:	None under normal use conditions.
Respiratory Protection:	None under normal use conditions.
Ventilation:	None under normal use conditions.
Protective Clothing:	None under normal use conditions.

HMIS Code	
Health	N/A
Flammability	N/A
Reactivity	N/A
Personal Protection	N/A

0 = Minimal / 4 = Severe Hazard

Sanford Corporation has been advised by council that the OSHA Hazard Communication Standard does not apply to the Sanford product described in this MSDS. The reason for the exemption is contained in 29 CFR 1910.1200 (b)(6)(ix), as amended July 1, 1994, per the Code of Federal Regulations. The information contained in this MSDS is forwarded to you for your information, but is not meant to imply that the product is covered by the Hazard Communication Standard, nor is the MSDS meant to comply with all the requirements of the Hazard Communication Standard.

****** SECTION 1 - Product and Company Identification ******

Manufacturer: Axalta Coating Systems, LLC
2001 Market Street, Suite 3600
Philadelphia, PA, 19103

Telephone: Product Information: (800) 438-3876
Medical Emergency: (855) 274-5698
Transportation Emergency: (800) 424-9300 (CHEMTREC)

PRODUCT NAME: FAST FUL BASE REDUCER
is a trademark of Axalta Coating Systems, LLC and all affiliates.

PRODUCT CODE: 441-20 051108

Chemical Family: Basecoat-Solventborne

****** SECTION 2 - Composition, Information on Ingredients ******

CAS #	Ingredient	Concentration/ Range (%)	Exposure Limits**
67-64-1	ACETONE	27- 37	A 750.0 ppm 15 min STEL A 500.0 ppm O 1000.0 ppm D 500.0 ppm 8 & 12 hour TWA
108-88-3	TOLUENE	22	A 20.0 ppm O 300.0 ppm CEIL O 500.0 ppm 10 min TWA O 200.0 ppm D 50.0 ppm 8 & 12 hour TWA Skin
142-82-5	HEPTANE	27- 37	A 500.0 ppm 15 min STEL A 400.0 ppm O 500.0 ppm
100-41-4	ETHYLBENZENE	0.5	A 20.0 ppm O 100.0 ppm D 25.0 ppm

****** SECTION 2 - Composition, Information on Ingredients ******
Cont'd

				8 & 12 hour TWA
1330-20-7	XYLENE	2	A	150.0 ppm
				15 min STEL
			A	100.0 ppm
			O	100.0 ppm
			D	100.0 ppm
				8 & 12 hour TWA
763-69-9	ETHYL 3-ETHOXY PROPIONATE	16- 26	A	None
			O	None

OSHA HAZARDOUS? Yes

** A = ACGIH, O = OSHA, D = Dupont, S = Supplier
D=Dupont Results obtained from E.I. duPont de Nemours and Company.
(For additional definition of terms, see Section 16).
Limits are 8-hour TWA unless otherwise specified.

****** SECTION 3 - Hazards Information ******

Emergency Overview:
DANGER! EXPOSURE MAY CAUSE LUNG INJURY AND ALLERGIC RESPIRATORY REACTION. EFFECTS MAY BE PERMANENT. FLAMMABLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

Potential Health Effects:
Inhalation:
If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
Ingestion:
May result in gastrointestinal distress.

****** SECTION 3 - Hazards Information ******
Cont'd

Skin or eye contact:
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

ACETONE
The following medical conditions may be aggravated by exposure: lung disease eye disorders skin disorders
Overexposure may cause damage to any of the following organs/systems: blood central nervous system eyes kidneys liver respiratory system skin

TOLUENE
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system kidneys liver respiratory system skin

Can be absorbed through the skin in harmful amounts.
Recurrent overexposure may result in liver and kidney injury.
High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans.
Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown.
WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

HEPTANE
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system respiratory system skin
May cause central nervous system effects such as dizziness, headache, nausea, and loss of consciousness.
Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys.
Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors.
Aspiration may occur during swallowing or vomiting, resulting in lung damage.

ETHYLBENZENE
Is an IARC, NTP or OSHA carcinogen.
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system kidneys liver lungs

****** SECTION 3 - Hazards Information ******
Cont'd

Recurrent overexposure may result in liver and kidney injury.
Studies in laboratory animals have shown reproductive, embryotoxic and developmental effects.
WARNING: This chemical is known to the State of California to cause cancer.

XYLENE
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: bone marrow cardiovascular system central nervous system kidneys liver lungs
Recurrent overexposure may result in liver and kidney injury.
High exposures may produce irregular heart beats.
Canada classifies Xylene as a developmental toxin as high exposures to xylenes in some animal studies have been reported to cause health effects on the developing fetus/embryo. These effects were often at levels toxic to the adult animal. The significance of these effects to humans is not known.
Repeated or prolonged skin contact may cause any of the following: irritation dryness cracking of the skin

NOTE:
If a chemical listed above is not identified as a carcinogen it is not an "IARC, NTP, or OSHA carcinogen".

****** SECTION 4 - First Aid Measures ******

First Aid Procedures:
Inhalation:
If affected by inhalation of vapor or spray mist, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.
Ingestion:
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.
Skin or eye:
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash thoroughly with soap and water. If irritation occurs, contact a physician.

****** SECTION 5 - Firefighting Measures ******

Flash Point (Method) 20 deg F to below 73 deg F Closed Cup
Approx. flammable limits LFL 1.0 % UFL 12.8 %
Auto ignition temperature 246.1 - 480.0 Deg C
Hazardous Combustion Products:
CO, C02, smoke, and oxides of any heavy metals that are reported in

****** SECTION 5 - Firefighting Measures ******
Cont'd

"Composition, Information on Ingredients" section.
Extinguishing media:
Universal aqueous film-forming foam, carbon dioxide, dry chemical.
Special fire fighting procedures:
Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.
Fire & explosion hazards:
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

****** SECTION 6 - Accidental Release Measures ******

Procedures for cleaning up spills or leaks:
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor.

If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0 -10% Ammonia, 2-5% Detergent and Water (balance) Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

****** SECTION 7 - Handling and Storage ******

Precautions to be taken in handling and storing:
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
OSHA/NFPA Storage Classification: IB
Other precautions:
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation , and gloves.

****** SECTION 8 - Exposure Controls or Personal Protection ******

****** SECTION 8 - Exposure Controls or Personal Protection ******
Cont'd

Engineering controls and work practices:
Ventilation:
Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Personal Protective Equipment:
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.
Respiratory:
Do not breathe vapors or mists. When this product is used with an isocyanate activator/hardener, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C) while mixing activator/hardener with paint, during application and until all vapors and spray mist are exhausted. If product is used without isocyanate activator/hardener, a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) and particulate filter (NIOSH TC-84A) may be used. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions and MSDS for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist if mixed with isocyanate activators/hardeners.
Protective clothing:
Neoprene gloves and coveralls are recommended.
Eye protection:
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

****** SECTION 9 - Physical and Chemical Properties ******

Evaporation Rate	Slower than Ether
Vapor Pressure of principal solvent	51.30 mmHg @ 20 Deg C
Solubility of solvent in water	NIL
Vapor density of principal solvent (Air = 1)	3.40
Approx. Boiling range	92 - 165 DEG (C)
Approx. Freezing range	-95 DEG (C)
Gallon weight (lbs/gal)	6.63
Specific gravity	0.79
Percent volatile by volume	100.00
Percent volatile by weight	100.00
Percent solids by volume	0.00
Percent solids by weight	0.00
Odor	Characteristic Solvent Odor
Appearance	Liquid Thinner
Physical state	Liquid
pH (waterborne systems only)	Not Applicable
VOC* less exempt (lbs/gal)	6.6

****** SECTION 9 - Physical and Chemical Properties ******
Cont'd

VOC* as packaged (lbs/gal)	4.8

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

****** SECTION 10 - Stability and Reactivity ******

Stability:
Stable
Incompatibility (materials to avoid):
None reasonably foreseeable
Hazardous decomposition products:
CO, C02, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.
Hazardous polymerization:
Will not occur.
Sensitivity to static discharge:
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.
Sensitivity to mechanical impact: None Known

****** SECTION 11 - Toxicological Information ******

No Information Available

****** SECTION 12 - Ecological Information ******

No Information Available

****** SECTION 13 - Disposal Considerations ******

Waste disposal method:
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

****** SECTION 14 - Transportation Information ******

No Information Available

****** SECTION 15 - Regulatory Information ******

TSCA Status:
In compliance with TSCA Inventory requirements for commercial purposes.

****** SECTION 15 - Regulatory Information ******
Cont'd

DSL Status:
All components of the mixture are listed on the DSL.

Photochemical Reactivity: Photochemically reactive

Other Regulatory Information:

CAS #	Ingredient	302	TPQ/RQ	EPCRA 311/312	313	CERCLA RQ(lbs)	HAP
67-64-1	ACETONE	N	NR	A,C,F	N	5000	N
108-88-3	TOLUENE	N	NR	A,C,F	Y	1000	Y
142-82-5	HEPTANE	N	NR	A,C,F	N	NR	N
100-41-4	ETHYLBENZENE	N	NR	A,C,F	Y	1000	Y
1330-20-7	XYLENE	N	NR	A,C,F	Y	100	Y
763-69-9	ETHYL 3-ETHOXY PROPIONATE	N	NR	NA	N	NR	N

Key:
EPCRA: Emergency Planning and Community Right-to-Know Act
(aka Title III, SARA)
302: Extremely hazardous substances
311/312 Categories: F = Fire Hazard A = Acute Hazard
R = Reactivity Hazard C = Chronic Hazard
P = Pressure Related Hazard
313 Information: Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP = Listed as a Clean Air Act Hazardous Air Pollutant
TPQ = Threshold planning quantity
RQ = Reportable quantity
NA = not available
NR = not regulated

****** SECTION 16 - Additional Information ******

HMIS Rating: H: 2 F: 3 R: 1
NFPA Rating: H: F: R:

Glossary of Terms:
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
STEL - Short term exposure limit
TWA - Time-weighted average
PNOR - Particles not otherwise regulated

****** SECTION 16 - Additional Information ******
Cont'd

PNOC - Particles not otherwise classified

NOTICE FROM AXALTA COATING SYSTEMS

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

MSDS prepared by:
Axalta Coating Systems Regulatory Affairs Consultant.

SAFETY DATA SHEET

Revision Date 25-Mar-2016 **Version** 3

1. IDENTIFICATION

Product identifier

Product Name FAST ORANGE PUMICE CREAM HAND CLEANER 14 OZ

Other means of identification

Product Code 35013
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Hand Cleaner or Soap - Heavy Duty
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance White **Physical state** Cream **Odor** Citrus

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Unknown acute toxicity 15.6009 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
WATER	7732-18-5	60 - 100	*
ETHOXYLATED C11-C16 ALCOHOL	127036-24-2	1 - 5	*
D-LIMONENE	5989-27-5	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact None under normal use conditions.

Inhalation None under normal use conditions.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep from freezing.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .
Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Eyewash stations

Individual protection measures, such as personal protective equipment

Eye/face protection None under normal use conditions.

Skin and body protection None under normal use conditions.

Respiratory protection None under normal use conditions.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Cream
Appearance	White
Odor	Citrus
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	6.0-8.5	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C / >212 °F	
Flash point	> 95 °C / > 203 °F	
Evaporation rate	<1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.05	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<1%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Keep from freezing.

Incompatible materials
Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation None known.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact None under normal use conditions. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion May cause irritation.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
WATER 7732-18-5	> 90 mL/kg (Rat)	-	-
D-LIMONENE 5989-27-5	= 4400 mg/kg (Rat)	> 5 g/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
D-LIMONENE 5989-27-5	-	Group 2A	-	X

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 266014 mg/kg
ATEmix (dermal) 294753 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

15.6042 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
D-LIMONENE 5989-27-5	-	35: 96 h Oncorhynchus mykiss mg/L LC50 0.619 - 0.796: 96 h Pimephales promelas mg/L LC50 flow-through	-

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
D-LIMONENE 5989-27-5	Toxic

14. TRANSPORT INFORMATION

DOT

Proper shipping name: Not regulated

IATA

Proper shipping name: Not regulated

IMDG

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not Listed.
ENCS	Not Listed.
IECSC	Complies
KECL	Not Listed.
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
PROPYLENE GLYCOL 57-55-6	X	-	X
LANOLIN 8006-54-0	-	-	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 25-Mar-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 09-Sep-2015 **Version** 2

1. IDENTIFICATION

Product identifier

Product Name FAST ORANGE PUMICE CREAM HAND CLEANER 14 OZ

Other means of identification

Product Code 35013
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Hand Cleaner or Soap - Heavy Duty
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label elements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance White **Physical state** Cream **Odor** Citrus

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Unknown acute toxicity 15.6009 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
WATER	7732-18-5	60 - 100	*
PUMICE	1332-09-8	5 - 10	*
ETHOXYLATED C11-C16 ALCOHOL	127036-24-2	1 - 5	*
CASTOR OIL	8001-79-4	1 - 5	*
D-LIMONENE	5989-27-5	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact None under normal use conditions.

Inhalation None under normal use conditions.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep from freezing.

Incompatible materials Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .
Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Eyewash stations

Individual protection measures, such as personal protective equipment

Eye/face protection No special technical protective measures are necessary.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection None under normal use conditions.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Cream
Appearance	White
Odor	Citrus
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	6.0-8.5	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	> 95 °C / > 203 °F	
Evaporation rate	<1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.05	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<1%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Keep from freezing.

Incompatible materials

Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation None known.

Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion May cause irritation.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
WATER 7732-18-5	> 90 mL/kg (Rat)	-	-
D-LIMONENE 5989-27-5	= 4400 mg/kg (Rat)	> 5 g/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
D-LIMONENE 5989-27-5	-	Group 2A	-	X

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 266014 mg/kg
ATEmix (dermal) 294753 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

15.6042 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
D-LIMONENE 5989-27-5	-	35: 96 h Oncorhynchus mykiss mg/L LC50 0.619 - 0.796: 96 h Pimephales promelas mg/L LC50 flow-through	-

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
D-LIMONENE 5989-27-5	Toxic

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated

IATA
Proper shipping name: Not regulated

IMDG
Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not Listed.
ENCS	Not Listed.
IECSC	Complies
KECL	Not Listed.
PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
PROPYLENE GLYCOL 57-55-6	X	-	X
LANOLIN 8006-54-0	-	-	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
Non-controlled

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 09-Sep-2015

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Material Safety Data Sheet

Date of issue 17 October 2010
Version 12

1. Product and company identification

Product name : FAST REDUCER
Code : MR185
Supplier : Refinish Products
19699 Progress Drive
Strongsville, OH 44149
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (740) 363-9610 (DELAWARE, OH) 8:00 a.m. - 5:00 p.m. EST

2. Hazards identification

Emergency overview : DANGER!

FLAMMABLE LIQUID AND VAPOR. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Toxic in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Toluene	108-88-3	10 - 30
Acetone	67-64-1	10 - 30
butanone	78-93-3	10 - 30
Isohexane	73513-42-5	7 - 13
n-Butyl acetate	123-86-4	7 - 13
n-Hexane	110-54-3	5 - 10
Solvent naphtha (petroleum), light aliph.	64742-89-8	5 - 10

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain .

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120F / 49C.

8 . Exposure controls/personal protection

Name	Result	ACGIH	OSHA	Ontario	Mexico	PPG
Toluene	TWA	20 ppm	200 ppm Z	20 ppm	50 ppm S	Not established
	STEL	Not established	500 ppm Z A 300 ppm Z C	Not established	Not established	Not established
Acetone	TWA	500 ppm	1000 ppm	500 ppm	1000 ppm	Not established
	STEL	750 ppm	Not established	750 ppm	1260 ppm	Not established
butanone	TWA	200 ppm	200 ppm	200 ppm	200 ppm	Not established
	STEL	300 ppm	Not established	300 ppm	300 ppm	Not established
Isohexane	TWA	500 ppm	Not established	500 ppm	500 ppm	Not established
	STEL	1000 ppm	Not established	1000 ppm	1000 ppm	Not established
n-Butyl acetate	TWA	150 ppm	150 ppm	150 ppm	150 ppm	Not established
	STEL	200 ppm	Not established	200 ppm	200 ppm	Not established
n-Hexane	TWA	50 ppm S	500 ppm	50 ppm S	50 ppm	Not established

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
IPEL = Internal Permissible Exposure Limit
OSHA = Occupational Safety and Health Administration.
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S = Potential skin absorption
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust
TLV = Threshold Limit Value
TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

8 . Exposure controls/personal protection

Gloves	: For prolonged or repeated handling, use the following type of gloves: Recommended: fluor rubber, foil
Respiratory	: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Skin	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	: Liquid.
Flash point	: Closed cup: -13.89°C (7°F)
Explosion limits	: Lower: 1.3%
Color	: Not available.
Odor	: Not available.
pH	: Not available.
Boiling/condensation point	: >37.78°C (>100°F)
Melting/freezing point	: Not available.
Specific gravity	: 0.78
Density (lbs / gal)	: 6.51
Vapor pressure	: 14.5 kPa (109 mm Hg) [20°C]
Vapor density	: Not available.
Volatility	: 100% (v/v), 100% (w/w)
Odor threshold	: Not available.
Evaporation rate	: 662 (butyl acetate = 1)
Partition coefficient: n-octanol/water	: Not available.
% Solid. (w/w)	: Not available.

10 . Stability and reactivity

Stability	: Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Reactive or incompatible with the following materials:,oxidizing materials,strong acids,strong alkalis
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LD50 Oral	Rat	636 mg/kg	-
	LD50 Dermal	Rabbit	8.39 g/kg	-
	LC50 Inhalation	Rat	49 g/m3	4 hours
Acetone	LD50 Oral	Rat	1.8 g/kg	-
	LD50 Dermal	Rabbit	20 g/kg	-
	LC50 Inhalation Vapor	Rat	76000 mg/m3	4 hours
butanone	LD50 Oral	Rat	2737 mg/kg	-
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LC50 Inhalation Vapor	Rat	11243 ppm	4 hours
n-Butyl acetate	LD50 Oral	Rat	10.768 g/kg	-
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LC50 Inhalation	Rat	>21.1 mg/l	4 hours
n-Hexane	LD50 Oral	Rat	15840 mg/kg	-
	LC50 Inhalation	Rat	48000 ppm	4 hours

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant? : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: lungs, brain, upper respiratory tract, skin, eyes, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, kidneys, liver, heart, peripheral nervous system.

Carcinogenicity

Carcinogenicity : No known significant effects or critical hazards.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Toluene	A4	3	-	-	-	-
Acetone	A4	-	-	-	-	-

Mutagenicity

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity

Teratogenicity : No known significant effects or critical hazards.

Reproductive toxicity

Developmental effects : Contains material which may cause developmental abnormalities, based on animal data.

Fertility effects : Contains material which may impair male fertility, based on animal data. Contains material which may impair female fertility, based on animal data.

12 . Ecological information

Environmental effects : Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure

12 . Ecological information

Toluene	Acute LC50 5800 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	Acute EC50 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
Acetone	Acute LC50 >100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Acute LC50 10000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
butanone	Acute LC50 3220000 to 3320000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Acute LC50 >400 ppm Marine water	Fish - Sheepshead minnow - Cyprinodon variegatus	96 hours
	Acute LC50 >520000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NOEC 400 ppm Marine water	Fish - Sheepshead minnow - Cyprinodon variegatus	96 hours
	Chronic NOEC <70000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
n-Butyl acetate	Acute LC50 18000 to 19000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
n-Hexane	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14 . Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Additional information
UN	1263	Paint related material	3	II	-
IMDG	1263	Paint related material. Marine pollutant (n-Hexane)	3	II	Marine pollutant
DOT	1263	Paint related material	3	II	-

14 . Transport information

PG* : Packing group

Reportable quantity RQ : CERCLA: Hazardous substances.: butanone: 5000 lbs. (2270 kg); Acetone: 5000 lbs. (2270 kg); Cyclohexane: 1000 lbs. (454 kg); n-Hexane: 5000 lbs. (2270 kg); Toluene: 1000 lbs. (454 kg); n-Butyl acetate: 5000 lbs. (2270 kg);

15 . Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : All components are listed or exempted.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : Not determined.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : All components are listed or exempted.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : All components are listed or exempted.

United States

U.S. Federal regulations :

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: butanone; Acetone; n-Hexane; Toluene; n-Butyl acetate
CERCLA: Hazardous substances.: butanone: 5000 lbs. (2270 kg); Acetone: 5000 lbs. (2270 kg); Cyclohexane: 1000 lbs. (454 kg); n-Hexane: 5000 lbs. (2270 kg); Toluene: 1000 lbs. (454 kg); n-Butyl acetate: 5000 lbs. (2270 kg);

SARA 311/312 MSDS Distribution - Chemical Inventory - Hazard Identification:

Chemical name	CAS #	Acute	Chronic	Fire	Reactive	Pressure
Toluene	108-88-3	Y	Y	Y	N	N
Acetone	67-64-1	Y	N	Y	N	N
butanone	78-93-3	Y	N	Y	N	N
Isohexane	73513-42-5	Y	N	Y	N	N
n-Butyl acetate	123-86-4	Y	N	Y	N	N
n-Hexane	110-54-3	Y	Y	Y	N	N
Solvent naphtha (petroleum), light aliph.	64742-89-8	Y	N	N	N	N
Product as-supplied :		Y	Y	Y	N	N

SARA 313
Supplier notification : Toluene (108-88-3, 10 - 30); n-Hexane (110-54-3, 5 - 10)

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

15 . Regulatory information

Flammability : 3 Health : 3 Reactivity : 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * Flammability : 3 Physical hazards : 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 Flammability : 3 Instability : 0

Date of previous issue : No previous validation.

Organization that prepared the MSDS : EHS

▽ Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Material Safety Data Sheet

Date of issue 21 September 2016
Version 27

1 . Product and company identification

Product name : FAST TOPCOAT HARDENER
Code : MH167
Manufacturer / Supplier : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

2 . Hazards identification

Emergency overview : WARNING!

FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. SKIN CONTACT TO ISOCYANATE MONOMER MAY LEAD TO ALLERGIC LUNG REACTION. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Harmful if inhaled. Severely irritating to the respiratory system. Can irritate eyes, nose, mouth and throat. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion : May be harmful if swallowed.
Skin : Moderately irritating to the skin. May cause an allergic skin reaction.
Eyes : Moderately irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.

Medical conditions aggravated by over-exposure : Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

2 . Hazards identification

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	% (w/w)
n-butyl acetate	123-86-4	30 - 60
Hexamethylene diisocyanate, oligomers	28182-81-2	10 - 30
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0	10 - 30
Solvent naphtha (petroleum), light aromatic	64742-95-6	3 - 7
1,2,4-trimethylbenzene	95-63-6	0.1 - 1
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
Hydrogen cyanide (HCN).
Cyanate and isocyanate.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not breathe vapor or mist. Do not swallow. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurization. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120°F / 49°C.

8 . Exposure controls/personal protection

Name	Result	ACGIH	Ontario	Mexico	PPG
n-butyl acetate	TWA STEL	150 ppm 200 ppm	150 ppm 200 ppm	150 ppm 200 ppm	Not established Not established
Hexamethylene diisocyanate, oligomers	TWA	Not established	Not established	Not established	0.5 mg/m³
	STEL	Not established	Not established	Not established	1 mg/m³
3-Isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate, oligomers	TWA	Not established	Not established	Not established	0.5 mg/m³
	STEL	Not established	Not established	Not established	1 mg/m³
1,2,4-trimethylbenzene	TWA	25 ppm	25 ppm	25 ppm	Not established
3-isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate	TWA	0.005 ppm	0.005 ppm	0.005 ppm	Not established

Key to abbreviations

A	=	Acceptable Maximum Peak	SR	=	Respiratory sensitization
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SS	=	Skin sensitization
C	=	Ceiling Limit	STEL	=	Short term Exposure limit values
F	=	Fume	TD	=	Total dust
IPEL	=	Internal Permissible Exposure Limit	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
S	=	Potential skin absorption			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

8 . Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Respiratory : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 28.89°C (84°F)

Explosion limits : Lower: 1.2%

Material supports combustion. : Yes.

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : >37.78°C (>100°F)

Melting/freezing point : Not available.

Specific gravity : 0.99

Density (lbs / gal) : 8.26

Vapor pressure : 1.4 kPa (10.6 mm Hg) [room temperature]

Vapor density : Not available.

Volatility : 60% (v/v), 53.52% (w/w)

Evaporation rate : 0.9 (butyl acetate = 1)

Solubility : Insoluble in the following materials: cold water.

9 . Physical and chemical properties

Partition coefficient: n-octanol/water : Not available.

% Solid. (w/w) : 46.48

10 . Stability and reactivity

Stability : The product may not be stable under certain conditions of storage or use.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure buildup could result in distortion, expansion and, in extreme cases, bursting of the container. Avoid increased storage temperature. Pressure hazard

Materials to avoid : Reactive or incompatible with the following materials:,oxidizing materials,strong acids, strong alkalis

Hazardous decomposition products : Cyanate and isocyanate.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LD50 Oral	Rat	10.768 g/kg	-
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LC50 Inhalation	Rat	>21.1 mg/l	4 hours
Hexamethylene diisocyanate, oligomers	LD50 Oral	Rat - Female	>2500 mg/kg	-
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	0.39 mg/l	4 hours
	LC50 Inhalation	Rat	18500 mg/m3	1 hours
Solvent naphtha (petroleum), light aromatic	LD50 Oral	Rat	8400 mg/kg	-
	LD50 Dermal	Rabbit	3.48 g/kg	-
1,2,4-trimethylbenzene	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation	Rat	18000 mg/m3	4 hours
3-isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate	LD50 Oral	Rat	>1000 mg/kg	-
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LC50 Inhalation Vapor	Rat	123 mg/m³	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >100 mg/l	Daphnia - daphnia magna	48 hours
	Acute EC50 >1000 mg/l	Algae - scenedesmus subspicatus	72 hours

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	TDG	Mexico	IMDG
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

TDG : None identified.

Mexico : None identified.

IMDG : None identified.

14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

15 . Regulatory information

Canada inventory (DSL) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability : 3 **Health** : 3 **Reactivity** : 1

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 1

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 1

Date of previous issue : **7/6/2016**

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 25 April 2016
Version 6

Section 1. Identification

Product name : FAST TOPCOAT HARDENER
Product code : MH167
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 20.3%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing must not be allowed out of the workplace.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Moisture-sensitive material. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : FAST TOPCOAT HARDENER

Ingredient name	%	CAS number
n-butyl acetate	≥20 - ≤50	123-86-4
Hexamethylene diisocyanate, oligomers	≥20 - ≤43	28182-81-2
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	≥20 - ≤50	53880-05-0
Solvent naphtha (petroleum), light aromatic	≥5.0 - ≤10	64742-95-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Section 6. Accidental release measures

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120°F / 49°C. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurization.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
n-butyl acetate	**ACGIH TLV (United States, 3/2015).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours.
Hexamethylene diisocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
Solvent naphtha (petroleum), light aromatic	None.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 28.89°C (84°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.9 (butyl acetate = 1)

Vapor pressure : 1.4 kPa (10.6 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 0.99

Density (lbs / gal) : 8.26

Solubility : Insoluble in the following materials: cold water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 60% (v/v), 53.52% (w/w)

% Solid. (w/w) : 46.48

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : In a fire, hazardous decomposition products may be produced.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Vapor	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m^3	1 hours
	LC50 Inhalation Dusts and mists	Rat	0.39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
n-butyl acetate	Category 3
Hexamethylene diisocyanate, oligomers	Category 3
Solvent naphtha (petroleum), light aromatic	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Dermal	41352.8 mg/kg
Inhalation (gases)	13707 ppm
Inhalation (vapors)	33.51 mg/l
Inhalation (dusts and mists)	4.569 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >1000 mg/l	Algae - scenedesmus subspicatus	72 hours
	Acute EC50 >100 mg/l	Daphnia - daphnia magna	48 hours
	Acute LC50 >100 mg/l	Fish - Danio rerio (zebra fish)	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-butyl acetate	1.78	-	low
Hexamethylene diisocyanate, oligomers	-	3.2	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

Section 13. Disposal considerations

safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	10841.2	Not applicable.	Not applicable.
RQ substances	(n-butyl acetate)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
n-butyl acetate	Yes.	No.	No.	Yes.	No.
Hexamethylene diisocyanate, oligomers	Yes.	No.	No.	Yes.	No.
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	No.	No.	No.	Yes.	No.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 1

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 1

Date of previous issue : **9/29/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Section 16. Other information

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 29 September 2015
Version 5

Section 1. Identification

Product name : FAST TOPCOAT HARDENER
Product code : MH167
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 20.3%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness and dizziness.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing must not be allowed out of the workplace.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Moisture-sensitive material. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : FAST TOPCOAT HARDENER

Ingredient name	%	CAS number
n-butyl acetate	≥25 - <50	123-86-4
Hexamethylene diisocyanate, oligomers	≥25 - <43	28182-81-2
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	≥10 - <25	53880-05-0
Solvent naphtha (petroleum), light aromatic	≥5 - <10	64742-95-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Section 6. Accidental release measures

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120°F / 49°C. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurization.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
n-butyl acetate	**ACGIH TLV (United States, 4/2014).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours.
Hexamethylene diisocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
Solvent naphtha (petroleum), light aromatic	None.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 28.89°C (84°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.9 (butyl acetate = 1)

Vapor pressure : 1.4 kPa (10.6 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 0.99

Density (lbs / gal) : 8.26

Solubility : Insoluble in the following materials: cold water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 60% (v/v), 53.52% (w/w)

% Solid. (w/w) : 46.48

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : In a fire, hazardous decomposition products may be produced.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Vapor	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m³	1 hours
	LC50 Inhalation Dusts and mists	Rat	0.39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
n-butyl acetate	Category 3
Hexamethylene diisocyanate, oligomers	Category 3
Solvent naphtha (petroleum), light aromatic	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Dermal	41352.8 mg/kg
Inhalation (gases)	13707 ppm
Inhalation (vapors)	33.51 mg/l
Inhalation (dusts and mists)	4.569 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >1000 mg/l	Algae - scenedesmus subspicatus	72 hours
	Acute EC50 >100 mg/l	Daphnia - daphnia magna	48 hours
	Acute LC50 >100 mg/l	Fish - Danio rerio (zebra fish)	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-butyl acetate	1.78	-	low
Hexamethylene diisocyanate, oligomers	-	3.2	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

Section 13. Disposal considerations

safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	10841.2	Not applicable.	Not applicable.
RQ substances	(n-butyl acetate)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
n-butyl acetate	Yes.	No.	No.	Yes.	No.
Hexamethylene diisocyanate, oligomers	Yes.	No.	No.	Yes.	No.
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	No.	No.	No.	Yes.	No.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 1

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 1

Date of previous issue : **7/29/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Section 16. Other information

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

Date of issue/Date of revision 18 February 2015
Version 2

Section 1. Identification

Product name : FAST TOPCOAT HARDENER
Product code : MH167
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place,
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 20.3%

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor.
Harmful if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness and dizziness.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Moisture-sensitive material. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : FAST TOPCOAT HARDENER

Ingredient name	%	CAS number
n-butyl acetate	30 - 60	123-86-4
Hexamethylene diisocyanate, oligomers	10 - 30	28182-81-2
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	10 - 30	53880-05-0
Solvent naphtha (petroleum), light aromatic	3 - 7	64742-95-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Special provisions : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Section 6. Accidental release measures

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120F / 49C. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO_2 will be formed, which, in closed containers, could result in pressurization.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
n-butyl acetate	**ACGIH TLV (United States, 4/2014).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours.
Hexamethylene diisocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	**IPEL (PPG).** TWA: 0.5 mg/m³ STEL: 1 mg/m³

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Restrictions on use : Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 28.89°C (84°F)

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%

Evaporation rate : 0.89 (butyl acetate = 1)

Vapor pressure : 1.4 kPa (10.6 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 0.99

Density (lbs / gal) : 8.26

Solubility : Insoluble in the following materials: cold water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 60% (v/v), 53.67% (w/w)

% Solid. (w/w) : 46.33

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : In a fire, hazardous decomposition products may be produced.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Vapor	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
Hexamethylene diisocyanate, oligomers	LC50 Inhalation Dusts and mists	Rat	18500 mg/m^3	1 hours
	LC50 Inhalation Dusts and mists	Rat	0.39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
Solvent naphtha (petroleum), light aromatic	LD50 Dermal	Rabbit	3.48 g/kg	-
	LD50 Oral	Rat	8400 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
n-butyl acetate	Category 3
Hexamethylene diisocyanate, oligomers	Category 3
Solvent naphtha (petroleum), light aromatic	Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light aromatic	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : No specific data.

Section 11. Toxicological information

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Dermal	41352.8 mg/kg
Inhalation (gases)	13790.1 ppm
Inhalation (vapors)	33.71 mg/l
Inhalation (dusts and mists)	4.597 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hexamethylene diisocyanate, oligomers	Acute EC50 >1000 mg/l Acute EC50 >100 mg/l Acute LC50 >100 mg/l	Algae - scenedesmus subspicatus Daphnia - daphnia magna Fish - Danio rerio (zebra fish)	72 hours 48 hours 96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hexamethylene diisocyanate, oligomers	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-butyl acetate Hexamethylene diisocyanate, oligomers	1.78 -	- 3.2	low low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

Section 13. Disposal considerations

safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	10841.2	Not applicable.	Not applicable.
RQ substances	(n-butyl acetate)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.

Australia inventory (AICS) : All components are listed or exempted.

Canada inventory (DSL) : All components are listed or exempted.

China inventory (IECSC) : All components are listed or exempted.

Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.

Japan inventory (ENCS) : All components are listed or exempted.

Section 15. Regulatory information

Korea inventory (KECI) : All components are listed or exempted.

New Zealand (NZIoC) : Not determined.

Philippines inventory (PICCS) : All components are listed or exempted.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
n-butyl acetate	Yes.	No.	No.	Yes.	No.
Hexamethylene diisocyanate, oligomers	Yes.	No.	No.	Yes.	No.
3-Isocyanatomethyl-3,5, 5-trimethylcyclohexyl isocyanate, oligomers	No.	No.	No.	Yes.	No.
Solvent naphtha (petroleum), light aromatic	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 3 **Physical hazards** : 1

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 3 **Instability** : 1

Date of previous issue : **9/22/2014.**

Organization that prepared the MSDS : EHS

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Safety Data Sheet

Product Name: Fiberglass-Auto Resin
Product identifier: 100498
Revision Date: 08-18-2016
Replaces:

1. Identification

Product identifier used on the label:

Product Name:	**Fiberglass-Auto Resin**
Product identifier:	100498
Other means of identification	
Synonyms:	No data available
Recommended use of the chemical and restrictions on use:	Polyester Resin Solution

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Chemical Manufacturer / Importer / Distributor:	ITW Evercoat a division of Illinois Tool Works Inc. 6600 Cornell Road Cincinnati, OH 45242 513-489-7600
Emergency phone number:	CHEMTREC: 1-800-424-9300 CANUTEC: 1-613-996-6666

2. Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Hazard Symbols:

GHS Classification:	Reproductive Toxicity Category 1B Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1 Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 1 Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2A Germ Cell Mutagenicity Category 2 Carcinogenicity Category 2 Hazardous to the aquatic environment - Acute Category 2 Flammable Liquid Category 3 Acute Toxicity - Inhalation Dust / Mist Category 4
GHS Signal Word:	Danger

GHS Hazard Statements:	Flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.
GHS Precautionary Statements:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
Storage:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal:	Dispose of contents/container in accordance with

local/regional/national/international regulation for hazardous wastes.

Hazards not otherwise classified: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

3. Composition/information on ingredients

Chemical Component:	CAS number and other unique identifiers	% (or range) of ingredient
Styrene	100-42-5	15 - 40

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Eye Contact: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention. Flush eyes gently with water for at least 15 minutes, lifting upper & lower eye lids. Seek immediate medical attention.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists. Remove contaminated clothing and continue flushing with water. Wash affected area thoroughly with soap and water. Seek medical advice if symptoms persist Wash clothing before reuse.

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately If symptoms develop, immediately move individual away from exposure and into fresh air. Get medical attention immediately. Keep the victim warm and quiet. If the victim has stopped breathing open airway, loosen collar and belt, and administer artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.

Ingestion: Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by medical personnel. If individual is drowsy or unconscious, do not give anything by mouth; place individual on left side with head down. If possible, do not leave individual unattended.

Most important symptoms/effects, acute and delayed:

Most important symptoms/effects (Acute):	No data available
Most important symptoms/effects (Delayed):	No data available
Indication of immediate medical attention and special treatment needed, if necessary:	No additional first aid information available

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:	Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire. Regular foam Carbon dioxide Dry chemical
Unsuitable extinguishing media:	No data available

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Fire and/or Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide, Styrene oxide, Hydrocarbons
Special protective equipment and precautions for fire-fighters:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat. Wear a self contained breathing apparatus (NIOSH approved) with a full face piece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

Methods and materials for containment and cleaning up: No special spill clean-up considerations. Collect and discard in regular trash. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area. Activate available exhaust ventilation equipment in the immediate spill area. All personnel in the area should be protected as in Section 8. Avoid breathing vapors. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.

7. Handling and storage

Precautions for safe handling: Mildly irritating material. Avoid unnecessary exposure. All hazard precautions given in the data sheet must be observed. Do not get in eyes, on skin and clothing Wash hands before eating Use with adequate ventilation Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Do not take internally. Keep container closed when not in use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Conditions for safe storage: Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Store in a cool dry place For maximum product quality, avoid prolonged storage at temperatures above 75 °F (25 °C). Keep away from heat, sparks, and flame Store in a tightly closed container Avoid contact with incompatible materials.

Materials to Avoid/Chemical Incompatibility: Oxygen Peroxides Strong acids Strong oxidizing agents

8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available:

Chemical Component	OSHA PEL	ACGIH TLV-TWA	ACGIH STEL
Styrene	100 ppm	20 ppm	40 ppm STEL; 170 mg/m3 STEL

Appropriate engineering controls: No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort. General or local

ventilation or isolation may prove adequate to keep airborne exposures below exposure limits. Explosion proof exhaust ventilation should be used.

Individual protection measures, such as personal protective equipment:

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Splash proof chemical goggles are recommended to protect against the splash of product.

Skin Protection: Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.

Other Protective Equipment: Splash proof chemical goggles are recommended to protect against the splash of product. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots

9. Physical and chemical properties

Appearance (physical state, color, etc.):

Appearance (physical state):	Liquid
Color:	Pink Hazy
Odor:	Aromatic
Odor threshold:	No data available
pH:	Neutral
Melting Point/Freezing Point (°C):	No data available
Initial Boiling Point and Boiling Range (°C):	145
Flash Point (°C):	31.6
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	
Upper Flammable/Explosive Limit (%):	6.1
Lower Flammable/Explosive Limit (%):	1.1

Vapor Pressure:	No data available
Vapor Density:	Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Relative Density:	Not determined
Solubility(ies):	Insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition Temperature (°C):	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available
VOC (as applied*- 2% by wt hardener- less exempts and water):	0.44 lbs/gal or 53 g/L

10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid (e.g., static discharge, shock, or vibration):	No data available
Incompatible materials:	Oxygen Peroxides Strong acids Strong oxidizing agents
Hazardous decomposition products:	Carbon dioxide Carbon monoxide Styrene oxide Hydrocarbons

11. Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	Ingestion, Skin contact, Eye contact, Absorption
Symptoms related to the physical, chemical and toxicological characteristics:	No data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure:

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache and dizziness. Airborne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema.
Skin Contact:	Can cause minor skin irritation, defatting, and dermatitis.
Skin Absorption:	Causes skin irritation. Contact may cause irritation and possible dermatitis or

	sensitization. Symptoms may include redness, burning, drying and cracking of skin, and skin burns
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Causes gastrointestinal tract irritation, nausea, vomiting, diarrhea and possible ulcerations to mucous membranes. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.
Ingestion Toxicity:	Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	Suspected of causing cancer. The International Agency for Research on Cancer (IARC) has classified styrene as a group 2B carcinogen (possibly carcinogenic to humans).
Reproductive and Developmental Toxicity:	May damage fertility or the unborn child.
Mutagenicity:	Suspected of causing genetic defects.
Inhalation:	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact:	Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

Numerical measures of toxicity (such as acute toxicity estimates)
Component Toxicology Data

Chemical Component	Oral LD50	Dermal LD50	Inhalation LC50
Styrene	Oral LD50 Rat 5000 mg/kg		Inhalation LC50 (4h) Rat 24 g/m3

Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
Styrene	N	Y	Y

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available):	Toxic to aquatic life. Styrene is toxic to aquatic organisms and should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.
Persistence and degradability:	No data available
Bioaccumulative potential:	No data

Mobility in soil: No data available
Other adverse effects (such as hazardous to the ozone layer): No data available

Ecological Toxicity Data

Chemical Component	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No data available			

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Description of waste residues: Spent or discarded material is a hazardous waste.
Safe Handling of Waste: This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261).
Waste treatment methods (including packaging): Dispose of by incineration following Federal, State, Local, or Provincial regulations.
Waste Disposal Code(s): D001

14. Transport information

UN number: UN3269
UN proper shipping name: POLYESTER RESIN KIT
Transport hazard class(es): 3
Packing group: III

The shipper is responsible for following all applicable regulations. The transportation classification provided is based on ITW Evercoat original packaging, which is suitable for domestic ground transport only.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

TSCA Status: A component or components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

Regulated Components

Chemical Component	CAS number and other unique identifiers	CERCLA	SARA EHS	SARA 313	California Prop 65
Styrene	100-42-5	N	N	Y	Y

16. Other information, including date of preparation or last revision.

Revision Date:	08-18-2016
Revision Number:	16

Disclaimer: NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances

Safety Data Sheet

Product Name: Fiberglass-Auto Resin
Product identifier: 100498
Revision Date: 12-14-2015
Replaces:

1. Identification

Product Name:	**Fiberglass-Auto Resin**
Product identifier:	100498
Relevant identified uses of the substance or mixture and uses advised against:	Polyester Resin Solution

Other means of identification

Chemical Manufacturer / Importer / Distributor:	ITW Evercoat a division of Illinois Tool Works Inc. 6600 Cornell Road Cincinnati, OH 45242 513-489-7600
Emergency telephone number:	CHEMTREC: 1-800-424-9300 CANUTEC: 1-613-996-6666

2. Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Hazard Symbols:

GHS Classification:	Reproductive Toxicity Category 1B Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1 Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 1 Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2A Germ Cell Mutagenicity Category 2 Carcinogenicity Category 2 Hazardous to the aquatic environment - Acute Category 2 Flammable Liquid Category 3 Acute Toxicity - Inhalation Dust / Mist Category 4
GHS Signal Word:	Danger
GHS Hazard Statements:	Flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled.

	Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.
GHS Precautionary Statements:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.
First Aid Measures:	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use for extinction.
Storage:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal:	Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

Hazards not otherwise classified:	Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

3. Composition/information on ingredients

Chemical Component:	CAS number and other unique identifiers	% (or range) of ingredient
Styrene	100-42-5	15 - 40

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Eye Contact:	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention. Flush eyes gently with water for at least 15 minutes, lifting upper & lower eye lids. Seek immediate medical attention.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists. Remove contaminated clothing and continue flushing with water. Wash affected area thoroughly with soap and water. Seek medical advice if symptoms persist Wash clothing before reuse.
Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately If symptoms develop, immediately move individual away from exposure and into fresh air. Get medical attention immediately. Keep the victim warm and quiet. If the victim has stopped breathing open airway, loosen collar and belt, and administer artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by medical personnel. If individual is drowsy or unconscious, do not give anything by mouth; place individual on left side with head down. If possible, do not leave individual unattended.
Immediate medical attention and special treatment needed,:	No additional first aid information available

5. Fire-fighting measures

Suitable extinguishing media:	Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire. Regular foam Carbon dioxide Dry chemical
Unsuitable extinguishing media:	No data available
Fire and/or Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide, Styrene oxide, Hydrocarbons
Special protective equipment and precautions for fire-fighters:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat. Wear a self contained breathing apparatus (NIOSH approved) with a full face piece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS
Methods and material for containment and cleaning up:	No special spill clean-up considerations. Collect and discard in regular trash. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area. Activate available exhaust ventilation equipment in the immediate spill area. All personnel in the area should be protected as in Section 8. Avoid breathing vapors. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.

7. Handling and storage

Precautions for safe handling: Mildly irritating material. Avoid unnecessary exposure. All hazard precautions given in the data sheet must be observed. Do not get in eyes, on skin and clothing Wash hands before eating Use with adequate ventilation Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Do not take internally. Keep container closed when not in use. Keep out of the reach of children.

Conditions for safe storage: Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Store in a cool dry place For maximum product quality, avoid prolonged storage at temperatures above 75 °F (25 °C). Keep away from heat, sparks, and flame Store in a tightly closed container Avoid contact with incompatible materials.

Materials to Avoid/Chemical Incompatibility:: Oxygen Peroxides Strong acids Strong oxidizing agents

8. Exposure controls/personal protection

Limits:

Chemical Component	OSHA PEL	ACGIH TLV-TWA	ACGIH STEL
Styrene	100 ppm	20 ppm	40 ppm STEL; 170 mg/m3 STEL

Appropriate engineering controls.: No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort. General or local ventilation or isolation may prove adequate to keep airborne exposures below exposure limits. Explosion proof exhaust ventilation should be used.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Splash proof chemical goggles are recommended to protect against the splash of product.

Skin Protection: Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots

Respiratory Protection: Respiratory protection may be required to avoid overexposure

	when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.
Other Protective Equipment:	Splash proof chemical goggles are recommended to protect against the splash of product. Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots
General Hygiene Conditions:	All hazard precautions given in the data sheet must be observed. Do not get in eyes, on skin and clothing Wash hands before eating Use with adequate ventilation Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Do not take internally. Keep container closed when not in use. Keep out of the reach of children.

9. Physical and chemical properties

Appearance (physical state):	Liquid
Color:	Pink Hazy
Odor:	Aromatic
Odor threshold:	No data available
pH:	Neutral
Melting Point/Freezing Point (°C):	No data available
Initial Boiling Point and Boiling Range (°C):	145
Flash Point (°C):	31.6
Evaporation Rate:	No data available
Flammability (solid, gas):	No data available
Upper Flammable/Explosive Limit:	6.1
Lower Flammable/Explosive Limit:	1.1
Vapor Pressure:	5 MMHG@20C/68F
Vapor Density:	Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Relative Density:	Not determined
Solubility(ies):	Insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition Temperature (°C):	490 °C
Decomposition Temperature::	No data available
Viscosity:	No data available
VOC (as applied*- 2% by wt hardener- less exempts and water)	0.44 or 53

10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under normal conditions.
Conditions to avoid:	None known. .
Incompatible materials:	Oxygen Peroxides Strong acids Strong oxidizing agents
Hazardous decomposition products:	Carbon dioxide Carbon monoxide Styrene oxide Hydrocarbons

11. Toxicological information

Likely routes of exposure (inhalation, ingestion, skin and eye contact):	Ingestion, Skin contact, Eye contact, Absorption

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache and dizziness. Airborne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema.
Skin Contact:	Can cause minor skin irritation, defatting, and dermatitis.
Skin Absorption:	Causes skin irritation. Contact may cause irritation and possible dermatitis or sensitization. Symptoms may include redness, burning, drying and cracking of skin, and skin burns
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Causes gastrointestinal tract irritation, nausea, vomiting, diarrhea and possible ulcerations to mucous membranes. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.
Ingestion Toxicity:	Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	Suspected of causing cancer. The International Agency for Research on Cancer (IARC) has classified styrene as a group 2B carcinogen (possibly carcinogenic to humans).
Reproductive and Developmental Toxicity:	May damage fertility or the unborn child.
Mutagenicity:	Suspected of causing genetic defects.
Inhalation:	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Skin Contact: Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

Component Toxicology Data

Chemical Component	Oral LD50	Dermal LD50	Inhalation LC50
No data available			

Has the chemical been classified as a Carcinogen by NTP, IARC or OSHA.

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
Styrene	N	Y	Y

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available): Toxic to aquatic life. Styrene is toxic to aquatic organisms and should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.
Persistence and degradability: No data available
Mobility in soil: No data available
Other adverse effects (such as hazardous to the ozone layer): No data available

Données sur l'écotoxicité

Chemical Component	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No data available			

13. Disposal considerations

Description of waste residues: Spent or discarded material is a hazardous waste.
Safe Handling of Waste: This material as supplied, if discarded, would be not be regulated as a hazardous waste under RCRA (40 CFR 261).
Waste treatment methods (including packaging): Dispose of by incineration following Federal, State, Local, or Provincial regulations.
Waste Disposal Code(s): D001

14. Transport information

UN number: UN3269
UN proper shipping name: POLYESTER RESIN KIT
Transport hazard class(es): 3

Packing group: III

The shipper is responsible for following all applicable regulations. The transportation classification provided is based on ITW Evercoat original packaging, which is suitable for domestic ground transport only.

15. Regulatory information

Statut TSCA: A component or components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

Regulated Components:

Chemical Component	CAS number and other unique identifiers	CERCLA	SARA EHS	SARA 313	California Prop 65
Styrene	100-42-5	N	N	Y	N

16. Other information, including date of preparation or last revision.

Revision Date: 12-14-2015
Revision Number: 14

Disclaimer: NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances

SAFETY DATA SHEET

Revision Date 18-Jun-2015 **Version** 3

1. IDENTIFICATION

Product identifier
Product Name Flambeau Orange Enamel L/F

Other means of identification
Product Code IB-4644
UN/ID no. UN1263
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Emergency Overview

Danger

Hazard statements
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
Causes damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Highly flammable liquid and vapor

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ ventilating/ lighting/ equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO_2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• May be harmful in contact with skin
• Causes mild skin irritation
Unknown acute toxicity 8.82% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Mineral Spirits (Rule 66)	64742-47-8	10 - 30	*
Aliphatic Hydrocarbon	64742-49-0	10 - 30	*
Solvent Naphtha, Medium Aliphatic	64742-88-7	5 - 10	*
1-Nitropropane	108-03-2	1 - 5	*
Xylene	1330-20-7	1 - 5	*
Ethyl Benzene	100-41-4	0.1 - 1	*
Titanium dioxide	13463-67-7	0.1 - 1	*

Methyl Ethyl Ketoxime	96-29-7	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with plenty of water. Call a physician immediately.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician immediately.

Ingestion Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

Self-protection of the first aider Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Cover liquid spill with sand, earth or other non-combustible absorbent material. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1-Nitropropane 108-03-2	TWA: 25 ppm	TWA: 25 ppm TWA: 90 mg/m³ (vacated) TWA: 25 ppm (vacated) TWA: 90 mg/m³	IDLH: 1000 ppm TWA: 25 ppm TWA: 90 mg/m³
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m³	-
Ethyl Benzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	No information available
Color	No information available	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 110 °C / 230 °F	
Flash point	9 °C / 48 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.89	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	7.40 lbs/gal
Bulk density	No information available
Percent solids by weight	39.9%
Percent volatile by weight	60.1%
Percent solids by volume	30.6%
Actual VOC (lbs/gal)	4.4
Actual VOC (grams/liter)	533
EPA VOC (lbs/gal)	4.4

EPA VOC (grams/liter) 533
EPA VOC (lb/gal solids) 14.5

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Chlorinated compounds.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Mineral Spirits (Rule 66) 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Aliphatic Hydrocarbon 64742-49-0	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 73680 ppm (Rat) 4 h
Solvent Naphtha, Medium Aliphatic 64742-88-7	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
1-Nitropropane 108-03-2	= 455 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 11.02 mg/L (Rat) 1 h
Xylene 1330-20-7	= 3500 mg/kg (Rat)	> 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Ethyl Benzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Methyl Ethyl Ketoxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylene 1330-20-7	-	Group 3	-	-
Ethyl Benzene 100-41-4	A3	Group 2B	-	X
Titanium dioxide 13463-67-7	-	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Ethylbenzene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). Prolonged or repeated overexposure to ethylbenzene may result in adverse effects to the kidneys, liver, respiratory system, thyroid, testicles, and pituitary glands. May cause adverse liver effects.
Target Organ Effects Central nervous system, Eyes, kidney, liver.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

63.59% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Mineral Spirits (Rule 66) 64742-47-8	-	45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static	4720: 96 h Den-dronereides heteropoda mg/L LC50
Aliphatic Hydrocarbon 64742-49-0	-	-	2.6: 96 h Chaetogammarus marinus mg/L LC50
Solvent Naphtha, Medium Aliphatic 64742-88-7	450: 96 h Pseudokirchneriella subcapitata mg/L EC50	800: 96 h Pimephales promelas mg/L LC50 static	100: 48 h Daphnia magna mg/L EC50
1-Nitropropane 108-03-2	98: 72 h Desmodesmus subspicatus mg/L EC50	205: 48 h Brachydanio rerio mg/L LC50 static	258: 24 h Daphnia magna mg/L EC50
Xylene 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50

Ethyl Benzene 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Lepomis macrochirus mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 9.6: 96 h Poecilia reticulata mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
Methyl Ethyl Ketoxime 96-29-7	83: 72 h Desmodesmus subspicatus mg/L EC50	777 - 914: 96 h Pimephales promelas mg/L LC50 flow-through 760: 96 h Poecilia reticulata mg/L LC50 static 320 - 1000: 96 h Leuciscus idus mg/L LC50 static	750: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
1-Nitropropane 108-03-2	0.851
Xylene 1330-20-7	2.77 - 3.15
Ethyl Benzene 100-41-4	3.118
Methyl Ethyl Ketoxime 96-29-7	0.65

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001 U154 U220 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylene 1330-20-7	-	Included in waste stream: F039	-	U239
Ethyl Benzene 100-41-4	-	Included in waste stream: F039	-	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Xylene 1330-20-7	Toxic Ignitable
Ethyl Benzene 100-41-4	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	Class 3, Flammable Liquid
Packing Group	II
Special Provisions	149, B52, IB2, T4, TP1, TP8, TP28
Emergency Response Guide Number	128

TDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II

MEX

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II

ICAO (air)

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Special Provisions	A3, A72

IATA

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
ERG Code	3L
Special Provisions	A3, A72

IMDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-E
Special Provisions	163
Description	UN1263, Paint, 3, II

RID

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1

ADR

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640C, 650
Labels	3

ADN

Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Special Provisions	163, 640C, 650
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Complies *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Complies *
AICS	Complies *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Xylene - 1330-20-7	1.0
Ethyl Benzene - 100-41-4	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylene 1330-20-7	100 lb	-	-	X
Ethyl Benzene 100-41-4	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylene 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethyl Benzene 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Hansa Orange (Orange 5) - 3468-63-1	Carcinogen
Ethyl Benzene - 100-41-4	Carcinogen
Titanium dioxide - 13463-67-7	Carcinogen
Methanol - 67-56-1	Developmental
Toluene - 108-88-3	Developmental Female Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Solvent Naphtha, Medium Aliphatic 64742-88-7	X	-	-
1-Nitropropane 108-03-2	X	X	X
Xylene 1330-20-7	X	X	X
Nitroethane 79-24-3	X	X	X
Ethyl Benzene 100-41-4	X	X	X
Methanol 67-56-1	X	X	X
Silica, Amorphous fumed 7631-86-9	X	X	X
Trimethyl Benzene (mixed isomers) 25551-13-7	X	X	X
1,2,4-Trimethylbenzene 95-63-6	X	X	X
Toluene 108-88-3	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Chemical Name	Weight % of HAPS in Product	Pounds HAPS / Gal Product
Xylene 1330-20-7	1.03%	0.08

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 1	**Flammability** 3	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 1* *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = *Chronic Health Hazard*

Revision Date 18-Jun-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

The Power Behind Performance

CROWN BATTERY SINCE 1926

EFFECTIVE DATE: 6/1/15

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FLOODED LEAD ACID STARTING BATTERIES

UN NUMBER: 2794

MANUFACTURER: CROWN BATTERY MANUFACTURING COMPANY

ADDRESS: P.O. Box 990
1445 Majestic Drive
Fremont Ohio, 43420

EMERGENCY PHONE: 800.424.9300 (Domestic)
703.527.3887 (International)

CHEMTREC PHONE: 800.424.9300

OTHER CALLS: 419.334.7181

FAX PHONE: 419.334.7416

COMPANY WEBSITE: www.crownbattery.com

SYNONYMS: SLI Battery, Automotive Battery, Wet Spillable Battery

CHEMICAL FORMULA: PbO2 + Pb +2H2SO4 = 2PbSO4 + 2H2O

PRODUCT USE: Batteries, wet, filled with acid

PREPARED BY: Jim Anderson

SECTION 2: GHS HAZARDS IDENTIFICATION

HEALTH		ENVIRONMENTAL	PHYSICAL
			
Acute Toxicity (Oral/Dermal/Inhalation)	**Category 4**	Aquatic **Chronic 1** Aquatic **Acute 1**	Explosive Chemical, Division 1.3
Skin Corrosion/Irritation	**Category 1A**		
Eye Damage	**Category 1**		
Reproductive	**Category 1A**		
Carcinogenicity (lead compounds)	**Category 1B**		
Carcinogenicity (arsenic)	**Category 1A**		
Carcinogenicity (acid mist)	**Category 1A**		
Specific Target Organ Toxicity (repeated exposure)	**Category 2**		

Hazard Statements – DANGER!

Harmful if swallowed, inhaled, or in contact with skin.

Acid causes severe skin burns and eye damage.

May damage fertility or the unborn child if ingested or inhaled.

May cause harm to breast-fed children.

May cause cancer if ingested or inhaled.

Causes skin irritation, serious eye damage.

Contact with internal components may cause irritation or severe burns.

Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure if ingested or inhaled.

Irritating to eyes, respiratory system, and skin.

May form explosive air/gas mixture during charging.

Extremely flammable gas (hydrogen).

Explosive, fire, blast or projection hazard

Precautionary Statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wash thoroughly after handling.

Do not eat drink or smoke when using this product.

Avoid contact during pregnancy/while nursing.

Wear protective gloves/protective clothing, eye protection/face protection.

Use only outdoors or in a well-ventilated area.

Avoid contact with internal acid.

Do not breathe dust/fume/gas/mist/vapors/spray.

Keep away from heat/sparks/open flames/hot surfaces. No smoking

IF SWALLOWED OR CONSUMED: rinse mouth.

Do NOT induce vomiting. Call a poison center/doctor if you feel unwell.

IF ON CLOTHING OR SKIN (or hair): Remove/Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed/concerned, or if you feel unwell seek medical attention/advice.

Store locked up, in a well-ventilated area, in accordance with local and national regulation.

Dispose of contents/container in accordance with local and national regulation.

Keep out of reach of children.

The Power Behind Performance

CROWN® BATTERY SINCE 1926

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS (CHEMICAL/COMMON NAMES):	CAS NO.:	% BY WT:
Lead and Lead Compounds	7439-92-1	50 to 70
Antimony	7440-36-0	0.1 to .99
Sulfuric Acid	7664-93-9	3 to 5
Inert Components (Separator Material)	N.A.	1 to 2
Water	7732-18-5	23 to 25

SECTION 4: FIRST AID MEASURES

INHALATION:

Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

Lead: Remove from exposure, gargle, wash nose and lips; consult physician.

INGESTION:

Sulfuric Acid: Give large quantities of water; Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician.

Lead: Consult physician immediately.

SKIN:

Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.

Lead: Wash immediately with soap and water.

EYES:

Sulfuric Acid and Lead: Flush immediately with large amounts of water for at least 15 minutes while lifting lids; Seek immediate medical attention if eyes have been exposed directly to acid.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT: Not Applicable

FLAMMABLE LIMITS: LEL = 4.1% (Hydrogen Gas in air); UEL = 74.2%

EXTINGUISHING MEDIA: CO2; foam; dry chemical. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use appropriate media for surrounding fire

FIRE FIGHTING PROCEDURES: Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

HAZARDOUS COMBUSTION PRODUCTS: Highly flammable hydrogen gas is generated during charging and operation of batteries. If ignited by burning cigarette, naked flame or spark, may cause battery explosion with dispersion of casing fragments and corrosive liquid electrolyte. Carefully follow manufacturer's instructions for installation and service. Keep away all sources of gas ignition and do not allow metallic articles to simultaneously contact the negative and positive terminals of a battery. Follow manufacturer's instructions for installation and service.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Stop flow of material, contain/absorb small spills with dry sand, earth or vermiculite. Do not use combustible materials. If possible, carefully neutralize spilled electrolyte with soda ash, sodium bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of un-neutralized acid to sewer. Acid must be managed in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

SECTION 7: HANDLING AND STORAGE

HANDLING: Unless involved in recycling operations, do not breach the casing or empty the contents of the battery. Handle carefully and avoid tipping, which may allow electrolyte leakage. There may be increasing risk of electric shock from strings of connected batteries. Keep containers tightly closed when not in use. If battery case is broken, avoid contact with internal components. Keep vent caps on and cover terminals to prevent short circuits. Place cardboard between layers of stacked automotive batteries to avoid damage and short circuits. Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water. Use banding or stretch wrap to secure items for shipping.

STORAGE: Store batteries under roof in cool, dry, well-ventilated areas separated from incompatible materials and from activities that may create flames, spark, or heat. Store on smooth, impervious surfaces provided with measures for liquid containment in the event of electrolyte spills. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit.

CHARGING: There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged will generate and release flammable hydrogen gas. Charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS (mg/m^3)						
Chemical & Common Name	**OSHA PEL**	**ACGIH**	**US NIOSH**	**Quebec PEV**	**Ontario OEL**	**EU OEL**
Lead and Lead Compounds (inorganic)	0.05	0.05	0.05	0.05	0.05	0.15 (b)
Electrolyte (H_2SO_4/H_2O)	1	0.2	1	1	0.2	0.05 (c)
Antimony	0.5	0.5	0.5	0.5	0.5	0.5 (b,e)

(a) As inhalable aerosol **(b)** Thoracic fraction

(c) Based on OEL's of Austria, Belgium, Denmark, France, Netherlands, Switzerland, & U.K.

N.E. = Not Established

ENGINEERING CONTROLS (VENTILATION): Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant. Handle batteries cautiously, do not tip to avoid spills. Make certain vent caps are on securely. If battery case is damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when filling, charging or handling batteries. Do not allow metallic materials to simultaneously contact both the positive and negative terminals of the batteries. Charge batteries in areas with adequate ventilation. General dilution ventilation is acceptable.

RESPIRATORY PROTECTION (NIOSH/MSHA APPROVED): None required under normal conditions.
When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

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SKIN PROTECTION: If battery case is damaged, use rubber or plastic acid-resistant gloves with elbow-length gauntlet, acid-resistant apron, clothing and boots.

EYE PROTECTION: If battery case is damaged, use chemical goggles or face shield.

OTHER PROTECTION: In areas where water and sulfuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply. Chemically impervious apron and face shield recommended when adding water or electrolyte to batteries. Wash Hands after handling.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PROPERTIES LISTED BELOW ARE FOR ELECTROLYTE:			
Boiling Point:	203 - 240° F	**Specific Gravity (H2O = 1):**	1.215 to 1.350
Melting Point:	N/A	**Vapor Pressure (mm Hg):**	10
Solubility in Water:	100%	**Vapor Density (AIR = 1):**	Greater than 1
Evaporation Rate: (Butyl Acetate = 1)	Less than 1	**% Volatile by Weight:**	N/A
pH:	~1 to 2	**Flash Point:**	Below room temperature (as hydrogen gas)
LEL (Lower Explosive Limit)	4.1% (Hydrogen)	**UEL (Upper Explosive Limit)**	74.2% (Hydrogen)
Appearance and Odor:	Manufactured article; no apparent odor. Electrolyte is a clear liquid with a sharp, penetrating, pungent odor.		

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable _X_ Unstable ___

This product is stable under normal conditions at ambient temperature.

CONDITIONS TO AVOID: Prolonged overcharge at high current; sources of ignition.

INCOMPATIBILITIES: (MATERIALS TO AVOID)

Electrolyte: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers, and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Lead Compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.

Arsenic Compounds: Strong oxidizers; bromine azide.
NOTE: hydrogen gas can react with inorganic arsenic to form the highly toxic gas – arsine

HAZARDOUS DECOMPOSITION PRODUCTS:

Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide.

Lead Compounds: Temperatures above the melting point are likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

HAZARDOUS POLYMERIZATION:

Will not occur.

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SECTION 11: TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY:

Sulfuric Acid: Harmful by all routes of entry.

Lead Compounds: Hazardous exposure can occur only when product is heated, oxidized or otherwise processed or damaged to create dust, vapor or fume. The presence of nascent hydrogen may generate highly toxic arsine gas.

INHALATION:

Sulfuric Acid: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.

Lead Compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

INGESTION:

Sulfuric Acid: May cause severe irritation of mouth, throat, esophagus and stomach.

Lead Compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.

SKIN CONTACT:

Sulfuric Acid: Severe irritation, burns and ulceration.

Lead Compounds: Not absorbed through the skin.

Arsenic compounds: Contact may cause dermatitis and skin hyperpigmentation

EYE CONTACT:

Sulfuric Acid: Severe irritation, burns, cornea damage, and blindness.

Lead Compounds: May cause eye irritation.

EFFECTS OF OVEREXPOSURE – ACUTE:

Sulfuric Acid: Severe skin irritation, damage to cornea, upper respiratory irritation.

Lead Compounds: Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability.

EFFECTS OF OVEREXPOSURE - CHRONIC:

Sulfuric Acid: Possible erosion of tooth enamel, inflammation of nose, throat & bronchial tubes.

Lead Compounds: Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in males and females. Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

CARCINOGENICITY:

Sulfuric Acid: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Group I carcinogen, a substance that is carcinogenic to humans. Per the guidance found in OSHA 29 CFR 1910.1200 Appendix F, this is approximately equivalent to GHS Category 1A. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

Lead Compounds: Lead is listed by IARC as a Group 2A - likely in animals at extreme doses. Per the guidance found in OSHA 29 CFR 1910.1200 Appendix F, this is approximately equivalent to GHS Category 1B. Proof of carcinogenicity in humans is lacking at present.

Arsenic: Arsenic is listed by IARC as a Group 1 - carcinogenic to humans. Per the guidance found in OSHA 29 CFR 1910.1200 Appendix F, this is approximately equivalent to GHS Category 1A.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of sulfuric acid with skin may aggravate diseases such as eczema and contact dermatitis. Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.

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ACUTE TOXICITY:

Inhalation LD50:	
Electrolyte:	LC50 rat: 375 mg/m3; LC50: guinea pig: 510 mg/m3
Elemental Lead:	Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)
Elemental arsenic:	No data
Oral LD50:	
Electrolyte:	rat: 2140 mg/kg
Elemental lead:	Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)
Elemental arsenic:	LD50 mouse: 145 mg/kg
Elemental Antimony:	LD50 rat: 100 mg/kg

ADDITIONAL HEALTH DATA: All heavy metals, including the hazardous ingredients in this product, are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate precautions such as ventilation and respiratory protection covered in Section 8. Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, smoking or leaving the work site. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home or laundered with personal non-contaminated clothing. This product is intended for industrial use only and should be isolated from children and their environment.

The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE: Lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead.

ENVIRONMENTAL TOXICITY: Aquatic Toxicity:

Sulfuric acid:	24-hr LC50, freshwater fish (Brachydanio rerio): 82 mg/L 96 hr- LOEC, freshwater fish (Cyprinus carpio): 22 mg/L
Lead:	48 hr LC50 (modeled for aquatic invertebrates): <1 mg/L, based on lead bullion
Arsenic:	24 hr LC50, freshwater fish (Carrassisus auratus) >5000 g/L.

ADDITIONAL INFORMATION:

- No known effects on stratospheric ozone depletion
- Volatile organic compounds: 0% (by Volume)
- Water Endangering Class (WGK): NA

SECTION 13: DISPOSAL CONSIDERATIONS (UNITED STATES)

SPENT BATTERIES: Send to secondary lead smelter for recycling. Spent lead-acid batteries are not regulated as hazardous waste when the requirements of 40 CFR Section 266.80 are met. Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity) and D008 (lead).

ELECTROLYTE: Place neutralized slurry into sealed acid resistant containers and dispose of as hazardous waste, as applicable. Large water diluted spills, after neutralization and testing, should be managed in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

Following local, State / Provincial, and Federal / National regulations applicable to end-of-life characteristics will be the responsibility of the end-user.

The Power Behind Performance

CROWN® BATTERY SINCE 1926

SECTION 14: TRANSPORT INFORMATION

UNITED STATES:

The U.S. Department of Transportation (DOT) hazardous materials regulations (49 CFR) applicable to lead acid batteries are specified in 49 CFR 173.159.

Proper Shipping Name: Batteries, wet, filled with acid
Hazard Class: 8
ID Number: UN2794
Packing Group: N/A
Labels: Corrosive

49 CFR 173.159(e) specifies that when transported by highway or rail, electric storage batteries containing electrolyte or corrosive battery fluid are not subject to any other requirements of this subchapter, if all of the following are met:

(1) No other hazardous materials may be transported in the same vehicle;
(2) The batteries must be loaded or braced so as to prevent damage and short circuits in transit;
(3) Any other material loaded in the same vehicle must be blocked, braced, or otherwise secured to prevent contact with or damage to the batteries; and
(4) The transport vehicle may not carry material shipped by any person other than the shipper of the batteries.

If any of the above-referenced requirements are not met, the batteries must be shipped as fully-regulated Class 8 Corrosive hazardous materials.

IATA Dangerous Goods Regulations (DGR):

The shipping information is as follows:

Proper Shipping Name: Batteries, wet, filled with acid
Packing Group: N/A
Hazardous Class: 8
Label/Placard Required: Corrosive
UN Identification: UN2794
Reference: IATA Packing Instruction 870 (IATA DGR 56th Edition)

IMDG Code:

The shipping information is as follows:

Proper Shipping Name: Batteries, wet, filled with acid
Packing Group: N/A
Hazardous Class: 8
Label/Placard Required: Corrosive
UN Identification: UN2794
Reference: IMDG Code Packing Instruction P801

SECTION 15: REGULATORY INFORMATION

UNITED STATES: EPCRA Sections 302, 304, 311 & 312

Lead-acid batteries do **NOT** meet the OSHA definition of an "article" (US EPA, Oct. 1998). The lead and acid that compose these batteries must be included when determining the various thresholds for these EPCRA section regulations. The acid in lead-acid batteries is **Sulfuric Acid**, which is an Extremely Hazardous Substance (EHS). The following table outlines the applicable EPCRA Sections and their respective thresholds for **Sulfuric Acid**:

EPCRA SECTIONS – SULFURIC ACID	THRESHOLDS
302 - Emergency Planning Notification	TPQ ≥ 1,000 lbs.
304 - Emergency Release Notification	RQ ≥ 1,000 lbs.
311 - MSDS Reporting	*TPQ ≥ 500 lbs.
312 - Chemical Inventory Reporting (i.e. Tier II)	*TPQ ≥ 500 lbs.

The reporting threshold for Sulfuric Acid is ≥ the designated TPQ or 500 lbs, whichever is less.

The lead used in lead-acid batteries does not qualify for any OSHA or EPCRA exemptions. Lead is **NOT** an EHS, and the following table outlines the applicable EPCRA Sections and their respective thresholds for **lead**:

EPCRA SECTIONS - LEAD	THRESHOLDS
311 - MSDS Reporting	≥ 10,000 lbs.
312 - Chemical Inventory Reporting (i.e. Tier II)	≥ 10,000 lbs.

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EPCRA Section 313

The reporting of lead and sulfuric acid (and their releases) in lead-acid batteries used in cars, trucks, most cranes, forklifts, locomotive engines, and aircraft for the purposes of EPCRA Section 313 is not required. Lead-acid batteries used for these purposes are exempt for Section 313 reporting per the "Motor Vehicle Exemption." See page B-22 of the **U.S. EPA Guidance Document for Lead and Lead Compound Reporting under EPCRA Section 313** for additional information of this exemption.

Supplier Notification: This product contains toxic chemicals that may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. For a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

TOXIC CHEMICAL	CAS NUMBER	APPROXIMATE % BY WEIGHT
Lead	7439-92-1	?
Sulfuric Acid/Water Solution	7664-93-9	?
Antimony	7440-36-0	?
Arsenic	7440-38-2	?
Tin	7440-31-5	?

TSCA: TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b (40 CFR Part 707.60(b)) No notice of export will be required for articles, except PCB articles, unless the Agency so requires in the context of individual section 5, 6, or 7 actions.

TSCA Section 13 (40 CFR Part 707.20): No import certification required (EPA 305-B-99-001, June 1999, Introduction to the Chemical Import Requirements of the Toxic Substances Control Act, Section IV.A)

RCRA: Spent Lead Acid Batteries are subject to streamlined handling requirements when managed in compliance with 40 CFR section 266.80 or 40 CFR part 273. Waste sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity) and D008 (lead).

STATE REGULATIONS (US):

Proposition 65 Warning: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

INTERNATIONAL REGULATIONS:

Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2).

Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

SECTION 16: OTHER INFORMATION

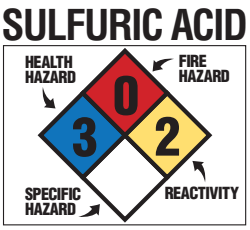
NFPA Hazard Rating for sulfuric acid:

Flammability (Red) = 0

Health (Blue) = 3

Reactivity (Yellow) = 2

Sulfuric acid is water-reactive if concentrated.



PREPARATION INFORMATION:

Prepared by Jim Anderson | Crown Battery | 419.334.7181

The information contained herein is based upon data considered true and accurate. However, Crown Battery makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of Crown Battery, Crown Battery assumes no responsibility for injury to user or to third persons. The material described herein is sold only pursuant to Crown Battery's Terms and Conditions of Sale, including those limiting warranties and remedies contained therein. It is the responsibility of the user to determine whether any of this data and information is in accordance with applicable federal state or local laws and regulations.

Material Safety Data Sheet

Filler Metals and Welding Rods

Product Trade Name/Product Classification(s): **FLUX COATED BRONZE AND BARE BRONZE**

"ESSENTIALLY SIMILAR" to U.S. Department of Labor Form OSHA 20 (to comply with OSHA's Hazard Communication Standard 29 CFR 1910, 1200)

SECTION 1: Identification

SUPPLIER: Inweld Corporation **Phone:** 1-800-346-5368 **Revised:** May, 2010
Address: 3962 Portland St., Coplay, PA 18037

Product Trade Name/Product Classification(s): **FLUX COATED BRONZE AND BARE BRONZE**

RBCuZn-C	**LFB-BARE**
RBCuZn-C	**LFB-FC**

SECTION 3: Physical Properties

NOT APPLICABLE

SECTION 4: Fire and Explosion Hazard Data

These products as shipped are non-hazardous, non-flammable, non-explosive, and non-reactive. Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z-49.1 for fire prevention during the use of welding procedures.

SECTION 5: Reactivity Data

HAZARDOUS DECOMPOSITION PRODUCTS:

Welding gases cannot be classified simply. Their composition and quantities are dependent upon the metal being welded, the process, the procedures, and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), number of welds and volume of work area, quality and amount of ventilation, position of welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). The primary route of entry of welding fumes and gases is by inhalation.

When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section 2. Decomposition products include those originating from volatilization, reaction, or oxidation of the materials shown in Section 2 plus those from base metal, coating, etc... as noted in Section 6.

These components are virtually always present as complex compounds and not as metals (Characterization of Arc Welding Fume: American Welding Society).

Reasonably expected fume or gas constituents of this product would include metal fumes, oxides of aluminum and magnesium, carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infra-red radiation, and ultra-violet radiation.

One recommended way to determine the composition and quantity of fumes and gases to which worker's are exposed are to take an air sample inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1, available from the American Welding Society, P.O. Box 351040, Miami, FL 33135.

SECTION 2: Hazardous Materials

IMPORTANT: THE MATERIALS LISTED ARE WHAT IS REASONABLY EXPECTED TO EXIST IN THE FUMES WHEN PRODUCT IS USED IN WELDING. THE TERM "HAZARDOUS" SHOULD BE INTERPRETED AS A TERM REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD(29 C.F.R. 1910.1200) AND IT DOES NOT NECESSARILY IMPLY THE EXISTENCE OF ANY HAZARD.

MATERIAL	(CAS NO.)	ACGHI TLV	OSHA PEL
		Mg/M^3	
Aluminum (fume)	7429-90-5	5.0	not listed
Aluminum (dust)	7429-90-5	10.0	not listed
Copper (fume)	7440-50-8	0.2	0.1
Copper (dust)	7440-50-8	1.0	1.0
Iron (oxide fume)(A)	1309-37-1	5.0	10.0
Nickel (soluble compounds)(B)	7440-02-0	1.0	1.0
Manganese (fume)	7439-96-5	1.0(fume)	5.0(ceiling)
Manganese (dust)	7439-96-5	8.0	5.0
Silicon(C)	7440-21-3	5Mg/M^3 respirable dust 10Mg/M^3 total dust	not listed
Zinc (oxide)(D)	1314-13-2	5.0(fume)	5.0
Tin (oxide)(E)	7440-31-5	2.0	2.0
Cobalt	7440-48-4	1.0	0.1

SOME OF THESE PRODUCTS ARE COATED WITH A CHEMICAL FLUX. FOR FLUX COATED ROD, THE FOLLOWING SHOULD BE INCLUDED WITH THE ABOVE BARE ROD:

MATERIAL	(CAS NO)	ACGHI TLV	OSHA PEL
		Mg/M^3	
Boric Acid (Boron Oxide)	1303-86-2 -	10.0 1.0	15 Not Listed
Sodium Tetraborate	1303-96-4	-	-

- Occupational Safety and Health Administration, 29, C.F.R. 1910.1000 Permissible Exposure Limit (PEL).
- American Conference of Governmental Industrial Hygienists(ACGI) Threshold Limit Value(TLV[R]).
- Unknown: nuisance particulate concentration per ACGIH is 10mg/m^3

(A) Present in Silicon Bronze (ERCuSi-A), Alum Bronze A2 (ERCuAL-A2), and Alum Bronze 46 (ERCuNiAL)
(B) Present in Alum Bronze 46 (ERCuNiAL), and Alum Bronze 40
(C) Not Present in Phos Bronze A(ERCuSn-A), and Phos Bronze C (ERCuSn-C)
(D) Present in Silicon Bronze (ERCuSi-A), Alum Bronze A1 (ERCuAL-A1), and Alum Bronze A2 (ERCuAL-A2)
(E) Present in Sil Bronze, Deox Copper, Phos Bronze A, and Phos Bronze C

SECTION 6: Health Hazard Data

THRESHOLD LIMIT VALUE: The ACGIH recommended general limit for welding fume NOC (Not Otherwise Classified) is 5mg/m^3. The ACGIH 1984-85 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section 5 for specific fume constituents that may modify this TLV.

EFFECTS OF OVEREXPOSURE: FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH. Aggravation of preexisting respiratory or allergic conditions may occur in some workers. Short term (ACUTE) overexposure to welding fumes may result in discomfort such as: dizziness, nausea, and dryness or irritation of the nose, throat, or eyes. Long term (CHRONIC) overexposure to welding fumes may lead to siderosis (iron deposits in the lung) and is believed by some investigators to affect pulmonary function. ARC RAYS can injure eyes and burn skin. ALUMINUM-Dust/fines and fumes are a low health risk by inhalation and are normally treated as a nuisance dust in normal operations (e.g., milling, cutting, grinding). The AIHA Hygiene Guide lists toxicity by ingestion as "none expected". COBALT-has been reported as causing hyper sensitization type dermatitis in individuals who are susceptible. Animal studies have shown that particulate cobalt is an acutely irritating substance and industrial exposures, possible combined with small amounts of silica, are reported capable of producing serious pneumoconiosis that is initially of an insidious nature. NICKEL-The most common ailment arising from contact with nickel is an allergic dermatitis known as "nickel itch" that usually occurs when the skin is moist. Generally nickel and most salts of nickel do not cause systemic poisoning, IRAC has determined that there is at least limited evidence that nickel and certain nickel compounds may be human carcinogens. Several nickel compounds are carcinogenic to laboratory animals by various routes of entry. COPPER - Melting, grinding, cutting, of copper may produce fumes of dust exposure and breathing these fumes or dust may present potentially significant heath hazards. Fumes of copper may cause metal fume fever with fume like symptoms and skin and hair discoloration.

While industrial dermatitis has not been reported, keratinization of the hands and the soles of feet has been reported. Systemically as well, copper dust and fume cause irritation of the upper respiratory tract, a metallic taste in the mouth, and nausea. IRON-the inhalation of iron oxide fumes may cause an apparent benign pneumoconiosis that is called siderosis. This disease is reported not to be disabling, but makes x-ray determination of other lung conditions difficult or impossible. MANGANESE-chronic manganese poisoning may result from inhalation of dust or fumes. The central nervous system is the chief site of the injury. Chronic manganese poisoning is not a fatal disease although it is extremely disabling. Some individuals may be hypersusteptible to manganese. Freshly formed manganese fume has caused fever and chill similar to metal fume fever. ELECTRIC SHOCK CAN KILL. See Section 7.

CARCINOGENICITY: The following metals which appear in this Material Safety Data Sheet (MSDS) are classified as toxic chemicals which mates alloys containing these metals subject to reporting requirements of Section 313, Title 3, of the super fund amendments and reauthorization act of 1986 and 40 CRF part 372 CHROMIUM, COBALT, COPPER, LEAD, MANGANESE, AND NICKEL. Nickel should be considered a possible carcinogen per OSHA 29 CRF 1910.1200.

EMERGENCY & FIRST AID PROCEDURES: Remove to fresh air, obtain medical attention. Employ first aid techniques recommended by the American Red Cross.

SECTION 7: Precautions For Safe Handling And Use/Applicable Control Measures

Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 354140, Miami, FL 33135 and OSHA Publication 2206 (29 C.R.F. 1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail.

VENTILATION: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV'S in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplies respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.

EYE PROTECTION: Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to the next lighter shade that gives sufficient view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.

PROTECTIVE CLOTHING: Wear head, hand, and body protection that help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. At a minimum, this includes welder's gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

PROCEDURE FOR CLEANING OF SPILLS OR LEAKS: Not applicable.

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with Federal, State, and Local regulations.

SECTION 8: DISCLAIMER

ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF THE INFORMATION HEREIN, INWELD EXTENDS NO WARRANTIES, EXPRESS OR IMPLIED, MAKES NO REPRESENTATIONS AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF INFORMATION FOR APPLICATION TO PURCHASER'S INTENDED PURPOSE OR FOR CONSEQUENCES OF ITS USE. JUDGMENTS AS TO THE SUITABILITY OF INFORMATION FOR PURCHASER'S PURPOSES ARE PURCHASER'S RESPONSIBILITY.

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Name	Phone Number			CHEMTREC
Nu-Calgon Wholesaler, Inc.	(314) 469-7000 / (800) 554-5499			(800) 424-9300
Street Address	**City**	**State**	**Postal Code**	**Last Update**
2008 Altom Court	St. Louis	MO	63146-4151	11/2/12
Product Name	**Product Number**	**Product Use**		**EPA Registration #**
Foam-Tite Insulation Tape	4219	Insulating pipes and fittings		N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Exempt from regulation because foam is an "article" that does not release or otherwise result				
in exposure to a hazardous chemical under normal use.				

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: No Data.

Potential Health Effects

Eyes: No Data.

Skin: No Data.

Ingestion: No Data.

Inhalation: No Data.

Chronic Exposure: No Data.

Carcinogenicity: IARC, NTP, and OSHA do not list as a carcinogen.

Medical Conditions Aggravated be Exposure: No Data.

SECTION 4 – FIRST AID MEASURES

Eyes: No Data.

Skin: No Data.

Ingestion: No Data.

Inhalation: No Data.

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: No Data.°F

Autoignition Temp: No Data.°C/No Data.°F

Hazardous Products of Combustion: CO and HCl

Flammable Limits in Air: No Data.

Extinguishing Media: Water, CO_2, or dry chemicals

Fire and Explosion Hazards: Generation of HCl fumes

Special Firefighting Procedures: Self-contained breathing apparatus (SCBA).

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: For large spills, follow applicable OSHA regulations (29 CFR 1910.120).

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: No Data.

Storage Requirements: Store under 110°F for best performance

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: N/A.

Eye Protection: No Data.

Protective Clothing: None

Exposure Guidelines: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Specific Engineering Controls (such as ventilation, enclosed process): No Data.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Soft solid foam	**Freezing Point:** No Data.°C/No Data.°F	**% Volatile by Weight:** No Data.%
Color: No Data.	**Vapor Density [air =1]:** No Data.	**Evaporation Rate:** No Data.
Odor: No Data.	**Vapor Pressure:** No Data.	**Specific Gravity:** No Data.
Boiling Point: No Data.°C/No Data.°F	**Solubility in Water:** Insoluble	**pH (concentrate):** No Data.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: No Data.

Incompatibilities: No Data.

Reactive Conditions to avoid: No Data.

Decomposition Products: CO and HCl

SECTION 11 – TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD 50 of Ingredient (Specify Species)	LC50 of Ingredient (Specify Species)
No Data.	No Data.	No Data.	No Data.	No Data.

SECTION 12 – ECOLOGICAL INFORMATION

Hazardous Ingredients	Aquatic Toxicity Data
No Data.	No Data.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Follow applicable Federal, State, and local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: Not regulated by DOT, IMO, or ICAO.

Purview	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT (Land)	No Data.	No Data.	No Data.	No Data.
IMO (Water)	No Data.	No Data.	No Data.	No Data.
ICAO (Air)	No Data.	No Data.	No Data.	No Data.

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	Not regulated by WHMIS.
SARA Title III: (Superfund Amendments & Reauthorization Act)	No Data.
OSHA: (Occupational Safety & Health Administration)	No Data.
TSCA: (Toxic Substance Control Act)	No Data.
VOC: (volatile Organic Compounds)	No Data.
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	No Data.
CERCLA: (Comprehensive Response Compensation & Liability Act)	No Data.
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	No Data.

SECTION 16 – OTHER INFORMATION

Density:
V730, V770, V780, V830 6 lb/ft3
V740 9 lb/ft3
V620 11 lb/ft3
V710, V780 12 lb/ft3
V760, V860, V980, V990 15 lb/ft3

The information contained herein is based on the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herin.

USA SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **FUSOR 114LG, 114SM PLASTIC FINISHING ADH PT A**
Product Use/Class: **EPOXY ADHESIVE, PART 1 OF 2**

LORD Corporation
111 LORD Drive
Cary, NC 27511-7923

Telephone: 814 868-3180
Non-Transportation Emergency: 814 763-2345
Chemtrec 24 Hr Transportation Emergency No.
800 424-9300 (Outside Continental U.S. 703 527-3887)

EFFECTIVE DATE: 01/21/2015

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Skin sensitization Category 1
Reproductive toxicity Category 2
Specific target organ systemic toxicity (repeated exposure) Category 2 Immune system
Hazardous to the aquatic environment - chronic hazard Category 2

GHS LABEL ELEMENTS:

Symbol(s)

Signal Word

DANGER

Hazard Statements

Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure in contact with skin.(Immune system)
Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/eye protection/face protection.
Use personal protective equipment as required.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response

Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see supplemental first aid instructions on this label).

IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Take off contaminated clothing and wash before reuse.
Collect spillage.

Storage
Store locked up.

Disposal:
Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

Other Hazards:
This product contains component(s) which have the following warnings; however based on the GHS classification criteria of your country or locale, the product mixture may be outside the respective category(s).
Acute: May cause respiratory tract irritation. Harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.
Chronic: Prolonged or repeated contact may result in dermatitis.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight % Less Than
Epoxy resin	PROPRIETARY	45.0 %
Blend of acrylate monomers	PROPRIETARY	10.0 %
Blend of acrylate monomers	PROPRIETARY	10.0 %

4. FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL: Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). If water is used, fog nozzles are preferable.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Avoid contact. Avoid breathing vapors. Use appropriate respiratory protection for large spills or spills in confined area.

ENVIRONMENTAL PRECAUTIONS: Do not contaminate bodies of water, waterways, or ditches, with chemical or used container.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP: Keep non-essential personnel a safe distance away from the spill area. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the SDS form. Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

7. HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage.Avoid skin and eye contact.Wash thoroughly after handling.Do not handle until all safety precautions have been read and understood.Empty containers should not be re-used.Use with adequate ventilation.

STORAGE: Store only in well-ventilated areas.Keep container closed when not in use.

INCOMPATIBILITY: Amines, acids, water, hydroxyl, or active hydrogen compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

Chemical Name	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	Skin
Epoxy resin	N.E.	N.E.	N.E.	N.E.	N.A.
Blend of acrylate monomers	N.E.	N.E.	N.E.	N.E.	N.A.
Blend of acrylate monomers	N.E.	N.E.	N.E.	N.E.	N.A.

N.A. - Not Applicable, N.E. - Not Established, S - Skin Designation

Engineering controls: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

PERSONAL PROTECTION MEASURES/EQUIPMENT:

RESPIRATORY PROTECTION: Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

SKIN PROTECTION: Use neoprene, nitrile, or rubber gloves to prevent skin contact.

EYE PROTECTION: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT: Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using toilet facility. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical values, not to be used for specification purposes.

ODOR:	Epoxy	**VAPOR PRESSURE:**	N.D.
APPEARANCE:	Red	**VAPOR DENSITY:**	Heavier than Air
PHYSICAL STATE:	Paste	**LOWER EXPLOSIVE LIMIT:**	Not Applicable
FLASH POINT:	≥ 201 °F, 93 °C Setaflash Closed Cup	**UPPER EXPLOSIVE LIMIT:**	Not Applicable
BOILING RANGE:	N.A.	**EVAPORATION RATE:**	Not Applicable
AUTOIGNITION TEMPERATURE:	N.D.	**DENSITY:**	1.54 g/cm3 - 12.79 lb/gal

DECOMPOSITION TEMPERATURE:	N.D.	**VISCOSITY, DYNAMIC:**	N.D.
ODOR THRESHOLD:	N.D.	**VISCOSITY, KINEMATIC:**	N.D.
SOLUBILITY IN H2O:	Insoluble	**VOLATILE BY WEIGHT:**	0.00 %
pH:	N.A.	**VOLATILE BY VOLUME:**	0.00 %
FREEZE POINT:	N.D.	**VOC CALCULATED:**	0 lb/gal, 0 g/l
COEFFICIENT OF WATER/OIL DISTRIBUTION:	N.D.		

LEGEND: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur under normal conditions.

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Amines, acids, water, hydroxyl, or active hydrogen compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes, Acids

11. TOXICOLOGICAL INFORMATION

EXPOSURE PATH: Refer to section 2 of this SDS.

SYMPTOMS: Refer to section 2 of this SDS.

TOXICITY MEASURES:

Chemical Name	LD50/LC50
Epoxy resin	Oral LD50: Rat 11,400 mg/kg
Blend of acrylate monomers	Oral LD50: Rat 1,830 mg/kg Oral LD50: Rat 1,350 mg/kg Dermal LD50: Rabbit 4 mL/kg
Blend of acrylate monomers	N.D.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Epoxy resin	N.D.
Blend of acrylate monomers	N.D.
Blend of acrylate monomers	N.D.

PERSISTENCE AND DEGRADABILITY: Not determined for this product.

BIOACCUMULATIVE: Not determined for this product.

MOBILITY IN SOIL: Not determined for this product.

OTHER ADVERSE EFFECTS: Not determined for this product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality. Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

14. TRANSPORT INFORMATION

US DOT Road

DOT Proper Shipping Name:	Environmentally hazardous substances, liquid, n.o.s.
DOT Hazard Class:	9
SECONDARY HAZARD:	None
DOT UN/NA Number:	3082
Packing Group:	III
Emergency Response Guide Number:	171

For US DOT non-bulk road shipments this material may be classified as NOT REGULATED. For the most accurate shipping information, refer to your transportation/compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

IATA Cargo

PROPER SHIPPING NAME:	Environmentally hazardous substance, liquid, n.o.s.
DOT Hazard Class:	9
HAZARD CLASS:	None
UN-NUMBER:	3082
PACKING GROUP:	III
EMS:	9L

IMDG

PROPER SHIPPING NAME:	Environmentally hazardous substance, liquid, n.o.s.
DOT Hazard Class:	9
HAZARD CLASS:	None
UN-NUMBER:	3082
PACKING GROUP:	III
EMS:	F-A

The listed transportation classification applies to IATA Cargo and IMDG non-bulk shipments. It does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors for your country or particular locality. For the most accurate shipping information, refer to your transportation/compliance department.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.:

NONE

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS

The chemical substances in this product are on the TSCA Section 8 Inventory.

EXPORT NOTIFICATION

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

NONE

16. OTHER INFORMATION

Under HazCom 2012 it is optional to continue using the HMIS rating system. It is important to ensure employees have been trained to recognize the different numeric ratings associated with the HazCom 2012 and HMIS schemes.

HMIS RATINGS - HEALTH: 2 FLAMMABILITY: 1 PHYSICAL HAZARD: 0
* - Indicates a chronic hazard; see Section 2

Revision: New GHS SDS Format

Effective Date: 01/21/2015

DISCLAIMER

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

USA SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **FUSOR 114LG, 114SM PLASTIC FINISHING ADH PT B**
Product Use/Class: **EPOXY ADHESIVE, PART 2 OF 2**

LORD Corporation
111 LORD Drive
Cary, NC 27511-7923

Telephone: 814 868-3180
Non-Transportation Emergency: 814 763-2345
Chemtrec 24 Hr Transportation Emergency No.
800 424-9300 (Outside Continental U.S. 703 527-3887)

EFFECTIVE DATE: 01/21/2015

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Skin sensitization Category 1
Respiratory sensitization Category 1
Reproductive toxicity Category 2
Specific target organ systemic toxicity (single exposure) Category 3
Specific target organ systemic toxicity (repeated exposure) Category 2 Kidney
Specific target organ systemic toxicity (repeated exposure) Category 1 Blood, Kidney
Specific target organ systemic toxicity (repeated exposure) Category 1 Central nervous system
Specific target organ systemic toxicity (repeated exposure) Category 1 Liver, Thyroid
Hazardous to the aquatic environment - acute hazard Category 1
Hazardous to the aquatic environment - chronic hazard Category 2

GHS LABEL ELEMENTS:

Symbol(s)

Signal Word

DANGER

Hazard Statements

Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure if inhaled.(Kidney)
May cause damage to organs through prolonged or repeated exposure if swallowed.(Kidney)
Causes damage to organs through prolonged or repeated exposure in contact with skin.(Blood, Kidney)
Causes damage to organs through prolonged or repeated exposure if swallowed.(Central nervous system)
Causes damage to organs through prolonged or repeated exposure.(Liver, Thyroid)
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/eye protection/face protection.
Use personal protective equipment as required.
In case of inadequate ventilation wear respiratory protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response

Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see supplemental first aid instructions on this label).
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Take off contaminated clothing and wash before reuse.
Collect spillage.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

Other Hazards:

This product contains component(s) which have the following warnings; however based on the GHS classification criteria of your country or locale, the product mixture may be outside the respective category(s).

Acute: Harmful if inhaled. Overexposure to vapor may cause headache, dizziness, unconsciousness and/or breathing difficulty. May cause eye burns. Eye contact may cause severe eye damage, including vision disturbances, corneal damage, and blindness. May be absorbed through the skin in harmful amounts. A skin corrosivity study performed on this product or a similar product concludes that it is not corrosive to skin.Moderately toxic and may be harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

Chronic: Prolonged or repeated contact may result in dermatitis. Extremely high vapor concentrations may cause lung damage. The modified amine in this product gave both positive and negative results in laboratory genetic toxicity studies.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight % Less Than
4-tert-Butyl phenol	98-54-4	35.0 %
Polyamine	PROPRIETARY	15.0 %
Nonylphenol	25154-52-3	15.0 %
Amine compound	PROPRIETARY	10.0 %
Amine compound	PROPRIETARY	0.9 %

4. FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL: Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). If water is used, fog nozzles are preferable.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Avoid contact. Avoid breathing vapors. Use self-contained breathing equipment.

ENVIRONMENTAL PRECAUTIONS: Do not contaminate bodies of water, waterways, or ditches, with chemical or used container.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP: Keep non-essential personnel a safe distance away from the spill area. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the SDS form. Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

7. HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage.Avoid skin and eye contact.Wash thoroughly after handling.Avoid breathing of vapor or spray mists.Do not handle until all safety precautions have been read and understood.Empty containers should not be re-used.Use with adequate ventilation.

STORAGE: Store only in well-ventilated areas.Keep container closed when not in use.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

Chemical Name	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	Skin
4-tert-Butyl phenol	N.E.	N.E.	N.E.	N.E.	N.A.
Polyamine	N.E.	N.E.	N.E.	N.E.	N.A.
Nonylphenol	N.E.	N.E.	N.E.	N.E.	N.A.
Amine compound	N.E.	N.E.	N.E.	N.E.	N.A.
Amine compound	1 ppm	N.E.	N.E.	N.E.	S

N.A. - Not Applicable, N.E. - Not Established, S - Skin Designation

Engineering controls: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

PERSONAL PROTECTION MEASURES/EQUIPMENT:

RESPIRATORY PROTECTION: Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

SKIN PROTECTION: Use neoprene, nitrile, or rubber gloves to prevent skin contact.

EYE PROTECTION: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT: Remove and wash contaminated clothing before reuse.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using toilet facility. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical values, not to be used for specification purposes.

ODOR:	Amine	**VAPOR PRESSURE:**	N.D.
APPEARANCE:	White	**VAPOR DENSITY:**	Heavier than Air
PHYSICAL STATE:	Paste	**LOWER EXPLOSIVE LIMIT:**	Not Applicable
FLASH POINT:	≥ 201 °F, 93 °C Setaflash Closed Cup	**UPPER EXPLOSIVE LIMIT:**	Not Applicable
BOILING RANGE:	N.A.	**EVAPORATION RATE:**	Slower than n-butyl-acetate
AUTOIGNITION TEMPERATURE:	N.D.	**DENSITY:**	1.34 g/cm3 - 11.17 lb/gal
DECOMPOSITION TEMPERATURE:	N.D.	**VISCOSITY, DYNAMIC:**	N.D.
ODOR THRESHOLD:	N.D.	**VISCOSITY, KINEMATIC:**	N.D.
SOLUBILITY IN H2O:	Insoluble	**VOLATILE BY WEIGHT:**	0.00 %
pH:	N.A.	**VOLATILE BY VOLUME:**	0.00 %
FREEZE POINT:	N.D.	**VOC CALCULATED:**	0 lb/gal, 0 g/l0 g/l
COEFFICIENT OF WATER/OIL DISTRIBUTION:	N.D.		

LEGEND: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur under normal conditions.

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY: Strong acids, bases, and strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, organic or inorganic nitrogen compounds including traces of hydrogen cyanide

11. TOXICOLOGICAL INFORMATION

EXPOSURE PATH: Refer to section 2 of this SDS.

SYMPTOMS: Refer to section 2 of this SDS.

TOXICITY MEASURES:

Chemical Name	LD50/LC50
4-tert-Butyl phenol	Oral LD50: Rat 2,990 mg/kg Dermal LD50: Rabbit 2,318 mg/kg
Polyamine	Oral LD50: Rat 2,500 mg/kg Dermal LD50: Rabbit 550 mg/kg
Nonylphenol	Oral LD50: Rat 580 mg/kg Dermal LD50: Rabbit 2,031 mg/kg
Amine compound	Oral LD50: Rat 2,140 mg/kg Dermal LD50: Rabbit 880 µL/kg
Amine compound	Oral LD50: Rat 1,080 mg/kg Dermal LD50: Rabbit 672 mg/kg Inhalation LC50: Rat 70 mg/l /4 h

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
4-tert-Butyl phenol	Fish: Pimephales promelas 4.71 - 5.62 mg/l96 h flow-through Cyprinus carpio 6.9 mg/l96 h Static Invertebrates: Daphnia magna 3.9 mg/l48 h Daphnia magna 3.4 - 4.5 mg/l48 h Static Plants: Desmodesmus subspicatus 11.2 mg/l72 h
Polyamine	Fish: Poecilia reticulata 570 mg/l96 h semi-static Pimephales promelas 495 mg/l96 h Invertebrates: Daphnia magna 31.1 mg/l48 h Plants: Desmodesmus subspicatus 2.5 mg/l72 h Pseudokirchneriella subcapitata 20 mg/l72 h Pseudokirchneriella subcapitata 3.7 mg/l96 h
Nonylphenol	Fish: Pimephales promelas 0.135 mg/l96 h flow-through Invertebrates: Daphnia magna 0.14 mg/l48 h Daphnia magna 0.17 - 0.21 mg/l48 h Static Daphnia magna 0.0874 - 0.124 mg/l48 h semi-static Plants: Pseudokirchneriella subcapitata 0.41 mg/l96 h Desmodesmus subspicatus 1.3 mg/l72 h
Amine compound	Fish: Pimephales promelas 1,950 - 2,460 mg/l96 h flow-through Poecilia reticulata > 1,000 mg/l96 h semi-static Oncorhynchus mykiss >= 100 mg/l96 h semi-static Invertebrates: Daphnia magna 32 mg/l48 h Plants: Pseudokirchneriella subcapitata 495 mg/l72 h
Amine compound	Fish: Poecilia reticulata 248 mg/l96 h Static Poecilia reticulata 1,014 mg/l96 h semi-static Invertebrates: Daphnia magna 16 mg/l48 h Plants: Pseudokirchneriella subcapitata 1,164 mg/l72 h Pseudokirchneriella subcapitata 345.6 mg/l96 h Desmodesmus subspicatus 592 mg/l96 h

PERSISTENCE AND DEGRADABILITY: Not determined for this product.

BIOACCUMULATIVE: Not determined for this product.

MOBILITY IN SOIL: Not determined for this product.

OTHER ADVERSE EFFECTS: Not determined for this product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality. Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

14. TRANSPORT INFORMATION

US DOT Road

DOT Proper Shipping Name:	Environmentally hazardous substances, liquid, n.o.s.
DOT Hazard Class:	9
SECONDARY HAZARD:	None
DOT UN/NA Number:	3082
Packing Group:	III
Emergency Response Guide Number:	171

For US DOT non-bulk road shipments this material may be classified as NOT REGULATED. For the most accurate shipping information, refer to your transportation/compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

IATA Cargo

PROPER SHIPPING NAME:	Environmentally hazardous substance, liquid, n.o.s.
DOT Hazard Class:	9
HAZARD CLASS:	None
UN-NUMBER:	3082
PACKING GROUP:	III
EMS:	9L

IMDG

PROPER SHIPPING NAME:	Environmentally hazardous substance, liquid, n.o.s.
DOT Hazard Class:	9
HAZARD CLASS:	None
UN-NUMBER:	3082
PACKING GROUP:	III
EMS:	F-A

The listed transportation classification applies to IATA Cargo and IMDG non-bulk shipments. It does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors for your country or particular locality. For the most accurate shipping information, refer to your transportation/compliance department.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.:

Chemical Name	CAS Number	Weight % Less Than
Nonylphenol	25154-52-3	15.0 %

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS

The chemical substances in this product are on the TSCA Section 8 Inventory.

EXPORT NOTIFICATION

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

NONE

16. OTHER INFORMATION

Under HazCom 2012 it is optional to continue using the HMIS rating system. It is important to ensure employees have been trained to recognize the different numeric ratings associated with the HazCom 2012 and HMIS schemes.

HMIS RATINGS - HEALTH: 3* FLAMMABILITY: 1 PHYSICAL HAZARD: 0

* - Indicates a chronic hazard; see Section 2

Revision: New GHS SDS Format

Effective Date: 01/21/2015

DISCLAIMER

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

MATERIAL SAFETY DATA SHEET

For 1 Shot/Chromatic Liquid Coatings and Associated Liquid Materials

One Shot, LLC
A Spraylat Company
5300 W. 5th Avenue
Gary, IN 46406
(219) 949-1684
Fax: (219) 949-1612

e-mail HSEcoordinator@Spraylat.com

PREPARED BY : Health, Safety and Environmental Coordinator

EMERGENCY PHONE:	**1-800-424-9300**	**Chemtrec**
INTERNATIONAL TRANSPORTATION ACCIDENTS:	**1-703-527-3887**	**Chemtrec**

I. CHEMICAL PRODUCT IDENTIFICATION

Product Name : **G6000 REDUCER**

Date Printed :	11/09/10	Revision Number :	2
Revision Date :	03/31/10	Supercedes :	03/29/10

II. COMPOSITION/INFORMATION ON INGREDIENTS - *(EXPOSURE LIMITS - SEE SECTION VIII)*

INGREDIENT NAME	CAS #	%
Naphtha (petroleum), heavy aromatic	64742-94-5	50.01 - 75.00
Linseed oil	8001-26-1	25.01 - 30.00
Naphthalene	91-20-3	1.01 - 5.00
1,2,4-Trimethylbenzene	95-63-6	1.01 - 5.00

If ingredient percentages do not total 100%, the balance is due to rounding or applies to ingredient(s) deemed nonhazardous under 29 CFR 1910.1200 (Hazard Communication Standard).

III. HAZARDS IDENTIFICATION

	HMIS
HEALTH	2 *
FLAMMABILITY	2
REACTIVITY	0

0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme * = Chronic Health Effects

Routes of Entry: Inhalation, Ingestion, Skin contact, Eye contact, Absorption.

Medical Conditions Aggravated: Eye disease, Liver disease, Kidney disease, Skin disease including eczema and sensitization, Respiratory disease including asthma and bronchitis.

Immediate (Acute) Health Effects:

Inhalation: Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Toxic. Can cause systemic damage, see target organs below. Respiratory failure is possible at high doses.

Skin Contact: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact: Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption: May cause irritation and minor systemic damage.

Ingestion: Harmful if swallowed. May cause systemic poisoning. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

Target Organ Acute Toxicity: Eyes, Blood, Liver, Kidneys, Skin, CNS, Respiratory System.

Long-Term (Chronic) Health Effects:

Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact: Upon prolonged or repeated contact, can cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause minor systemic damage.

Carcinogenicity: IARC: Yes NTP: No OSHA: No

Target Organ Chronic Toxicity: Nervous System, Eyes, Blood, Liver, Kidneys, Skin, Lungs, Respiratory Tract.

NOTICE - Reports have associated repeated and prolonged occupational overexposure to solvents with brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

IV. FIRST AID

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Eyes: Immediately flush eyes with plenty of luke warm water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Seek medical advice immediately. Provide ingredients information from Section II of this MSDS to the medical care provider. Contact your local Poison Control Center (listed in the telephone book), or dial the local “Emergency” (911) number for additional information. Do not induce vomiting unless instructed to do so by a physician or other competent medical personnel. Never give anything by mouth to an unconscious person.

V. FIRE FIGHTING MEASURES

Flammability Summary: **Combustible**

Flash Point: 75 °C; 167 °F

Fire Hazards: Can form explosive mixtures at temperatures at or above the flash point. Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or crush used containers. Do not expose containers or product to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death. Avoid spontaneous combustion of contaminated rags and other easily ignitable accumulations (example: spray booth residue) by immediate immersion in water. Material may be ignited if preheated to temperatures above the flash point in the presence of a source of ignition. This product, when dried or cured, may support combustion when subjected to sources of ignition or heat in sufficient amount.

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the fire. Do not direct a water stream directly into the hot burning liquid.

Fire Fighting Instructions: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide.

VI. ACCIDENTAL RELEASE MEASURES

Health Consideration for Spill Response: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including: the material spilled, the quantity of the spill, and the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Spill Mitigation Procedures:

General Methods: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. For liquid spills, dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Air Release: Ventilate the area by opening door and/or turning on fans and blowers.

Water Release: Retain all contaminated water for treatment.

Land Spills: Avoid runoff into storm sewers and ditches that lead to waterways.

VII. HANDLING AND STORAGE

Handling: Harmful or irritating; avoid overexposure to the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Do not get in eyes, on skin and clothing. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Remove contaminated clothing and wash before reuse.

Storage: Store in a cool dry place. Isolate from incompatible materials. Keep container closed when not in use. Keep away from heat, sparks, and flame.

VIII. ENGINEERING CONTROLS, PERSONAL PROTECTIVE EQUIPMENT, AND EXPOSURE LIMITS

Engineering Controls: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. See table at the end of this Section VIII below for exposure limits. Engineering controls must be designed to meet any relevant OSHA chemical specific standards in 29 CFR 1910. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or using this material should be equipped with an eyewash and safety shower.

Protective Equipment:

Respiratory Tract: If general or local exhaust ventilation is not available or sufficient to reduce exposure to below acceptable levels, then respiratory protection is required to avoid overexposure when handling this product. Wear a NIOSH approved respirator if any exposure is possible.

Eyes: Wear safety glasses with side shields when handling this product. When the possibility exists for eye contact with splashing or spraying liquid, or airborne material, wear additional eye protection such as chemical splash goggles and/or face shield . Do not wear contact lenses. Have an eye wash station available.

Skin: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Protective Clothing: Wear chemically resistant gloves and apron. (Consult your safety equipment supplier).

CHEMICAL NAME	CAS #	ACGIH TLV	OSHA PEL	IDLH
Naphtha (petroleum), heavy aromatic	64742-94-5	No TLV	No PEL established	Not determined.
Linseed oil	8001-26-1	No TLV	No PEL established	Not determined.
Naphthalene	91-20-3	10 ppm TWA 15 ppm STEL	10 ppm TWA; 50 mg/m3 TWA	250 ppm IDLH
1,2,4-Trimethylbenzene	95-63-6	No TLV	No PEL established	Not determined.

IX. PHYSICAL DATA

Appearance: Colorless Liquid.

Color: Colorless

Odor: Aromatic

pH: N/A
Octanol/Water Coeff: Not Determined.
Solubility in Water: Negligible.
Vapor Density: Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Evaporation Rate: Slower than n-Butyl Acetate.
Specific Gravity/Density: 0.835 / 6.97 Lbs./Gl.
V.O.C. 5.19 Lbs/Gl less water & exempt solvent; 622 g/l less water & exempt solvent; 5.2 Lbs/Gl as packed

The VOC content is determined by using a percent solids basis, less water and exempt solvents, for adhesives, coatings and inks and the calculations of EPA Reference Method 24 or equivalent ASTM method approved by the executive office.

Initial Boiling Point: 186 ºC; 367 ºF

X. STABILITY AND REACTIVITY

Stability Information: Stable under normal conditions. Spontaneous combustion can occur.
Conditions to Avoid: Temperatures above flash point in combination with sparks, open flames, or other sources of ignition. Avoid spontaneous combustion of contaminated rags and other easily ignitable accumulations (example: spray booth residue) by immediate immersion in water.
Chemical Incompatibility: Strong oxidizing agents, Strong alkalies, Mineral acids.
Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide.

XI. TOXICOLOGICAL INFORMATION

Chemical Name	LD50/LC50
Naphtha (petroleum), heavy aromatic	Inhalation LC50 Rat: 590 mg/m3/4H; Dermal LD50 Rabbit: 2 mL/kg
Naphthalene	Inhalation LC50 Rat: >340 mg/m3/1H; Oral LD50 Rat: 490 mg/kg; Oral LD50 Mouse: 533 mg/kg; Dermal LD50 Rabbit: >20 gm/kg
Benzene, 1,2,4-trimethyl-	Inhalation LC50 Rat: 18 gm/m3/4H; Oral LD50 Rat: 5 gm/kg

XII. ECOLOGICAL INFORMATION

Overview: Care should be taken to minimize releases of any industrial chemicals to the environment.

XIII. DISPOSAL CONSIDERATIONS

Waste Description for Unused Product: Waste description not determined.
Disposal Methods: Information in this MSDS is provided only as a guide. Consult with competent authority to determine proper waste disposal procedures. Clean up and dispose of waste and clean-up materials in accordance with all federal, state, and local environmental regulations.
Potential EPA Waste Codes: Not determined., .

Some Components Possibly Subjected to USEPA Land Disposal Restrictions:
When disposing of unused products or any waste, the preferred options are to send to a licensed reclaimer or to permitted incinerators. There may be some other ingredients subject to LDR categories.
Naphthalene 91-20-3

XIV. TRANSPORTATION INFORMATION

Agency	Basic Description and Label
DOT	Not regulated per DOT.

Hazardous Substance
Naphthalene RQ = 100 pounds (45.4 kg)

XV. REGULATORY INFORMATION

Regulation

SARA 313 Reportable : Naphthalene, 1,2,4-Trimethylbenzene

TSCA Inventory : All components of this product are listed in, or exempt from, the TSCA 8(b) Inventory.

M.S.D.S. Reportable HAP(s) : Naphthalene.

California Proposition 65 : The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65: "WARNING: This product contains chemical(s) known to the State of California to cause cancer and birth defects, or other reproductive harm."

SARA/CERCLA Section 302 : N/A

XVI. ADDITIONAL INFORMATION

Major References: VENDOR'S MSDS's, PAINT & COATINGS HANDBOOK, EPA's LIST OF LISTS, AND OTHER PUBLISHED MATERIALS.

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Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950
US GHS

Synonyms: Hess Conventional (Oxygenated and Non-oxygenated) Gasoline; Reformulated Gasoline (RFG); Reformulated Gasoline Blendstock for Oxygenate Blending (RBOB); Unleaded Motor or Automotive Gasoline

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquid - Category 2
Skin Corrosion/Irritation - Category 2
Germ Cell Mutagenicity - Category 1B
Carcinogenicity - Category 1B
Toxic to Reproduction - Category 1A
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Specific Target Organ Toxicity (Repeat Exposure) - Category 1 (liver, kidneys, bladder, blood, bone marrow, nervous system)
Aspiration Hazard - Category 1
Hazardous to the Aquatic Environment – Acute Hazard - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

DANGER

Hazard Statements

Highly flammable liquid and vapour.
Causes skin irritation.
May cause genetic defects.
May cause cancer.
May damage fertility or the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs (liver, kidneys, bladder, blood, bone marrow, nervous system) through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist/vapours/spray.
Use only outdoors or in well-ventilated area.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Response

In case of fire: Use water spray, fog, dry chemical fire extinguishers or hand held fire extinguisher.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Get medical advice/attention if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting.

Storage

Store in a well-ventilated place.
Keep cool. Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
86290-81-5	Gasoline, motor fuel	100
108-88-3	Toluene	1-25
106-97-8	Butane	<10
1330-20-7	Xylenes (o-, m-, p- isomers)	1-15
95-63-6	Benzene, 1,2,4-trimethyl-	<6
64-17-5	Ethyl alcohol	0-10
100-41-4	Ethylbenzene	<3
71-43-2	Benzene	0.1-4.9

110-54-3	Hexane	0.5-4

A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May contain antioxidant and multifunctional additives. Non-oxygenated Conventional Gasoline and RBOB do not have oxygenates (Ethanol). Oxygenated Conventional and Reformulated Gasoline will have oxygenates for octane enhancement or as legally required.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or gaseous extinguishing agent.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

USE ONLY AS A MOTOR FUEL.
DO NOT SIPHON BY MOUTH

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Incompatibilities

Keep away from strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Gasoline, motor fuel (86290-81-5)

ACGIH: 300 ppm TWA
500 ppm STEL

Toluene (108-88-3)

ACGIH: 20 ppm TWA
OSHA: 200 ppm TWA; 375 mg/m3 TWA
150 ppm STEL; 560 mg/m3 STEL
NIOSH: 100 ppm TWA; 375 mg/m3 TWA
150 ppm STEL; 560 mg/m3 STEL

Butane (106-97-8)

ACGIH: 1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)
OSHA: 800 ppm TWA; 1900 mg/m3 TWA
NIOSH: 800 ppm TWA; 1900 mg/m3 TWA

Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: 100 ppm TWA
150 ppm STEL
OSHA: 100 ppm TWA; 435 mg/m3 TWA
150 ppm STEL; 655 mg/m3 STEL

Benzene, 1,2,4-trimethyl- (95-63-6)

NIOSH: 25 ppm TWA; 125 mg/m3 TWA

Ethyl alcohol (64-17-5)

ACGIH: 1000 ppm STEL
OSHA: 1000 ppm TWA; 1900 mg/m3 TWA
NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA

Ethylbenzene (100-41-4)

ACGIH: 20 ppm TWA
OSHA: 100 ppm TWA; 435 mg/m3 TWA
125 ppm STEL; 545 mg/m3 STEL
NIOSH: 100 ppm TWA; 435 mg/m3 TWA
125 ppm STEL; 545 mg/m3 STEL

Benzene (71-43-2)

ACGIH: 0.5 ppm TWA
2.5 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA
NIOSH: 0.1 ppm TWA
1 ppm STEL

Hexane (110-54-3)

ACGIH: 50 ppm TWA
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 500 ppm TWA; 1800 mg/m3 TWA
NIOSH: 50 ppm TWA; 180 mg/m3 TWA

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Translucent, straw-colored or light yellow	**Odor:**	Strong, characteristic aromatic hydrocarbon odor. Sweet-ether like
Physical State:	Liquid	**pH:**	ND
Vapor Pressure:	6.4 - 15 RVP @ 100 °F (38 °C) (275-475 mm Hg @ 68 °F (20 °C)	**Vapor Density:**	AP 3-4
Boiling Point:	85-437 °F (39-200 °C)	**Melting Point:**	ND
Solubility (H2O):	Negligible to Slight	**Specific Gravity:**	0.70-0.78
Evaporation Rate:	10-11	**VOC:**	ND
Percent Volatile:	100%	**Octanol/H2O Coeff.:**	ND
Flash Point:	-45 °F (-43 °C)	**Flash Point Method:**	PMCC
Upper Flammability Limit (UFL):	7.6%	**Lower Flammability Limit (LFL):**	1.4%
Burning Rate:	ND	**Auto Ignition:**	>530°F (>280°C)

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Gasoline, motor fuel (86290-81-5)

Inhalation LC50 Rat >5.2 mg/L 4 h; Oral LD50 Rat 14000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

Toluene (108-88-3)

Inhalation LC50 Rat 12.5 mg/L 4 h; Inhalation LC50 Rat >26700 ppm 1 h; Oral LD50 Rat 636 mg/kg; Dermal LD50 Rabbit 8390 mg/kg; Dermal LD50 Rat 12124 mg/kg

Butane (106-97-8)

Inhalation LC50 Rat 658 mg/L 4 h

Xylenes (o-, m-, p- isomers) (1330-20-7)
Inhalation LC50 Rat 5000 ppm 4 h; Inhalation LC50 Rat 47635 mg/L 4 h; Oral LD50 Rat 4300 mg/kg; Dermal LD50 Rabbit >1700 mg/kg

Benzene, 1,2,4-trimethyl- (95-63-6)
Inhalation LC50 Rat 18 g/m3 4 h; Oral LD50 Rat 3400 mg/kg; Dermal LD50 Rabbit >3160 mg/kg

Ethyl alcohol (64-17-5)
Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h

Ethylbenzene (100-41-4)
Inhalation LC50 Rat 17.2 mg/L 4 h; Oral LD50 Rat 3500 mg/kg; Dermal LD50 Rabbit 15354 mg/kg

Benzene (71-43-2)
Inhalation LC50 Rat 13050-14380 ppm 4 h; Oral LD50 Rat 1800 mg/kg

Hexane (110-54-3)
Inhalation LC50 Rat 48000 ppm 4 h; Oral LD50 Rat 25 g/kg; Dermal LD50 Rabbit 3000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Moderate irritant. Contact with liquid or vapor may cause irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This product may cause genetic defects.

Carcinogenicity

A: General Product Information

May cause cancer.

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

B: Component Carcinogenicity

Gasoline, motor fuel (86290-81-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Toluene (108-88-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Ethyl alcohol (64-17-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages) (Group 1 (carcinogenic to humans))

Ethylbenzene (100-41-4)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 77 [2000] (Group 2B (possibly carcinogenic to humans))

Benzene (71-43-2)

ACGIH: A1 - Confirmed Human Carcinogen
OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA
NIOSH: potential occupational carcinogen
NTP: Known Human Carcinogen (Select Carcinogen)
IARC: Monograph 100F [in preparation]; Supplement 7 [1987]; Monograph 29 [1982] (Group 1 (carcinogenic to humans))

Reproductive Toxicity

This product is suspected of damaging fertility or the unborn child.

Specified Target Organ General Toxicity: Single Exposure

This product may cause drowsiness or dizziness.

Specified Target Organ General Toxicity: Repeated Exposure

This product causes damage to organs through prolonged or repeated exposure.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Very toxic to aquatic life with long lasting effects. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Gasoline, motor fuel (86290-81-5)

Test & Species		Conditions
96 Hr LC50 Alburnus alburnus	119 mg/L [static]	
96 Hr LC50 Cyprinodon variegatus	82 mg/L [static]	
72 Hr EC50 Pseudokirchneriella subcapitata	56 mg/L	
24 Hr EC50 Daphnia magna	170 mg/L	

Toluene (108-88-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	15.22-19.05 mg/L [flow-through]	1 day old
96 Hr LC50 Pimephales promelas	12.6 mg/L [static]	
96 Hr LC50 Oncorhynchus mykiss	5.89-7.81 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	14.1-17.16 mg/L [static]	
96 Hr LC50 Oncorhynchus mykiss	5.8 mg/L [semi-static]	
96 Hr LC50 Lepomis macrochirus	11.0-15.0 mg/L [static]	
96 Hr LC50 Oryzias latipes	54 mg/L [static]	
96 Hr LC50 Poecilia reticulata	28.2 mg/L [semi-static]	
96 Hr LC50 Poecilia reticulata	50.87-70.34 mg/L [static]	
96 Hr EC50 Pseudokirchneriella subcapitata	>433 mg/L	
72 Hr EC50 Pseudokirchneriella subcapitata	12.5 mg/L [static]	
48 Hr EC50 Daphnia magna	5.46 - 9.83 mg/L [Static]	
48 Hr EC50 Daphnia magna	11.5 mg/L	

Xylenes (o-, m-, p- isomers) (1330-20-7)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	13.4 mg/L [flow-through]	

96 Hr LC50 Oncorhynchus mykiss	2.661-4.093 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	13.5-17.3 mg/L
96 Hr LC50 Lepomis macrochirus	13.1-16.5 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	19 mg/L
96 Hr LC50 Lepomis macrochirus	7.711-9.591 mg/L [static]
96 Hr LC50 Pimephales promelas	23.53-29.97 mg/L [static]
96 Hr LC50 Cyprinus carpio	780 mg/L [semi-static]
96 Hr LC50 Cyprinus carpio	>780 mg/L
96 Hr LC50 Poecilia reticulata	30.26-40.75 mg/L [static]
48 Hr EC50 water flea	3.82 mg/L
48 Hr LC50 Gammarus lacustris	0.6 mg/L

Benzene, 1,2,4-trimethyl- (95-63-6)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	7.19-8.28 mg/L [flow-through]
48 Hr EC50 Daphnia magna	6.14 mg/L

Ethyl alcohol (64-17-5)

Test & Species	Conditions
96 Hr LC50 Oncorhynchus mykiss	12.0 - 16.0 mL/L [static]
96 Hr LC50 Pimephales promelas	>100 mg/L [static]
96 Hr LC50 Pimephales promelas	13400 - 15100 mg/L [flow-through]
48 Hr LC50 Daphnia magna	9268 - 14221 mg/L
24 Hr EC50 Daphnia magna	10800 mg/L
48 Hr EC50 Daphnia magna	2 mg/L [Static]

Ethylbenzene (100-41-4)

Test & Species	Conditions
96 Hr LC50 Oncorhynchus mykiss	11.0-18.0 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	4.2 mg/L [semi-static]
96 Hr LC50 Pimephales promelas	7.55-11 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	32 mg/L [static]
96 Hr LC50 Pimephales promelas	9.1-15.6 mg/L [static]
96 Hr LC50 Poecilia reticulata	9.6 mg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	4.6 mg/L
96 Hr EC50 Pseudokirchneriella subcapitata	>438 mg/L
72 Hr EC50 Pseudokirchneriella subcapitata	2.6 - 11.3 mg/L [static]

96 Hr EC50 Pseudokirchneriella subcapitata	1.7 - 7.6 mg/L [static]
48 Hr EC50 Daphnia magna	1.8 - 2.4 mg/L

Benzene (71-43-2)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	10.7-14.7 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	5.3 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	22.49 mg/L [static]
96 Hr LC50 Poecilia reticulata	28.6 mg/L [static]
96 Hr LC50 Pimephales promelas	22330-41160 µg/L [static]
96 Hr LC50 Lepomis macrochirus	70000-142000 µg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	29 mg/L
48 Hr EC50 Daphnia magna	8.76 - 15.6 mg/L [Static]
48 Hr EC50 Daphnia magna	10 mg/L

Hexane (110-54-3)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	2.1-2.98 mg/L [flow-through]
24 Hr EC50 Daphnia magna	>1000 mg/L

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

DOT Information

Shipping Name: Gasoline
UN #: 1203 **Hazard Class:** 3 **Packing Group:** II
Placard:

* * * Section 15 - Regulatory Information * * *

Regulatory Information

A: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Toluene (108-88-3)
SARA 313: 1.0 % de minimis concentration
CERCLA: 1000 lb final RQ; 454 kg final RQ

Xylenes (o-, m-, p- isomers) (1330-20-7)
SARA 313: 1.0 % de minimis concentration
CERCLA: 100 lb final RQ; 45.4 kg final RQ

Benzene, 1,2,4-trimethyl- (95-63-6)
SARA 313: 1.0 % de minimis concentration

Ethylbenzene (100-41-4)
SARA 313: 0.1 % de minimis concentration
CERCLA: 1000 lb final RQ; 454 kg final RQ

Benzene (71-43-2)
SARA 313: 0.1 % de minimis concentration
CERCLA: 10 lb final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule); 4.54 kg final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule)

Hexane (110-54-3)

SARA 313: 1.0 % de minimis concentration
CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 – Hazard Classes

Acute Health	Chronic Health	Fire	Sudden Release of Pressure	Reactive
X	X	X	--	--

Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	**CAS**	**CA**	**MA**	**MN**	**NJ**	**PA**	**RI**
Gasoline, motor fuel	86290-81-5	No	No	No	No	Yes	No
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	No
Butane	106-97-8	Yes	Yes	Yes	Yes	Yes	No
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	Yes	Yes	Yes	Yes	No
Benzene, 1,2,4-trimethyl-	95-63-6	No	Yes	Yes	Yes	Yes	No
Ethyl alcohol	64-17-5	Yes	Yes	Yes	Yes	Yes	No
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	Yes	No
Benzene	71-43-2	Yes	Yes	Yes	Yes	Yes	No
Hexane	110-54-3	No	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.
WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Toluene	108-88-3	1 %
Butane	106-97-8	1 %
Benzene, 1,2,4-trimethyl-	95-63-6	0.1 %
Ethyl alcohol	64-17-5	0.1 %
Ethylbenzene	100-41-4	0.1 %
Benzene	71-43-2	0.1 %
Hexane	110-54-3	1 %

Additional Regulatory Information

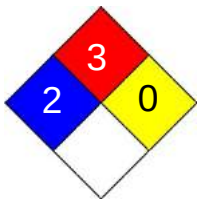
Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Gasoline, motor fuel	86290-81-5	No	DSL	EINECS
Toluene	108-88-3	Yes	DSL	EINECS
Butane	106-97-8	Yes	DSL	EINECS
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	DSL	EINECS
Benzene, 1,2,4-trimethyl-	95-63-6	Yes	DSL	EINECS
Ethyl alcohol	64-17-5	Yes	DSL	EINECS
Ethylbenzene	100-41-4	Yes	DSL	EINECS
Benzene	71-43-2	Yes	DSL	EINECS
Hexane	110-54-3	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

NFPA® Hazard Rating

Health	2
Fire	3
Reactivity	0



HMIS® Hazard Rating

Health	2	Moderate
Fire	3	Serious
Physical	0	Minimal
		*Chronic

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

MATERIAL SAFETY DATA SHEET
According to 1907/2006/EC, Article 31

Printing Date 26.02.2011 Revision 26.02.2011

1. Product identification and manufacturer

Product Name: **GHOST OFF**
Application: Degreaser and removing ghosting imaging left after decals removed
Product Number: 101

Manufacturer/Supplier:
CrystalTek West End Products
1010 Windward Ridge Pkwy
Alpharetta, GA 30005

Contact information:
Phone: (770) 643-8501
Web: www.westendproducts.com

2. Hazards Identification

Hazard Description:

Xi Irritant

Classification Phrases R:
36/38 IRRITATING TO EYES AND SKIN

Information concerning particular hazards for human and environment:
This product is dangerous under directive 1999/45/EC and subsequent amendments
No Ingredients according to directive 2004/648/EC
Not classified as a VOC or an organic solvent @ 20 C according to directive 1999/13/EC

3. Composition /Information on ingredients

CHEMICAL DESCRIPTION	CAS #	EINECS#	%	EU CLASSIFICATION
Sodium Metasilicate	6834-920	229-912-9	<5	Not Applicable
Ethylene glycol monobutyl ether	111-76-2	203-905-0	<5	Under Concentration Level Cut Off

**Listed as a toxic chemical under reporting requirements of section 313 of the emergency planning and community right-to-know act of 1986 and of 40 CFR 372

4. First-aid measures

Eyes: Flush with large amounts of running water while holding upper and lower lids open. Get medical attention if irritation persists.
Skin: Remove contaminated clothing and shoes. Wash with plenty of water. Wash clothes before reuse.
Inhalation: No danger to inhalation.
Ingestion: If swallowed, DO NOT INDUCE VOMITING. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

5. Fire-fighting measures

Suitable extinguishing media: Product not flammable.
Hazardous combustion products: May form:, carbon dioxide and carbon monoxide.
Protection of firefighters: Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, and face mask.
Flash Point: None **Auto ignition Temperature:** ND **Flammable Limits:** LEL: ND UEL: ND

6. Accidental release measures

Personal precautions: No data.
Environmental precautions: Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities.
Protection of firefighters: Stop spill at source. Wear appropriate protective equipment. Contain and recover liquid when possible. Collect liquid in an appropriate chemical waste container with an inert absorbent.

7. Handling and storage

Special handling procedures and equipment: Not applicable.
Specific storage requirements: Keep container tightly closed when not in use.

8. Exposure controls/personal protection

Respiratory Protection: None required.
Ventilation: Adequate **Local Exhaust:** Adequate
Protective Gloves: Recommended to prevent skin contact.
Eye Protection: Glasses or goggles in compliance with OSHA regulations.
Other Protective Equip/Clothing: Wear impervious clothing to prevent skin contact.

9. Physical and chemical properties

Physical State: Liquid
Form: Liquid
Color: light yellow-green, clear
Odor: Glycol Ether
Specific Gravity: 1.01
Solubility: Slightly
pH: 12.5 - 13.0
%Volatile: 97
Boiling Point: 99degC
Freezing Point: 0degC
Evaporation Rate: No data
Vapor pressure: No data
Vapor density: No data
Flash Point: Does not flash

10. Stability and reactivity

Stability: Stable
Hazardous decomposition products: None
Hazardous reactions: Product will not undergo hazardous polymerization.
Incompatibilities: Avoid contact with:, Strong oxidizers or acids.
Conditions to Avoid: Avoid contact with incompatibilities

11. Toxicological information

Acute oral toxicity: No data
Acute inhalation toxicity:
Acute dermal toxicity: No data
Additional toxicological information: None

12. Ecological information

Aquatic toxicity
Acute and prolonged toxicity to fish: No data
Acute toxicity to aquatic Invertebrates: No data
Environmental fate and pathways
No data

13. Disposal considerations

Waste disposal methods
Dispose of in accordance with all applicable local, state and federal regulations.

14. Transport information

Land transport ADR/RID (cross-border)

ADR/RID Class:	Not applicable.
Danger code(Kemier):	Not applicable.
UN Number:	Not applicable.
Packing group:	Not applicable.
Hazard label:	Not applicable.
Description of goods:	Not applicable.

Maritime transport IMDG

IMDG Class:	Not applicable.
UN Number:	Not applicable.
Label:	Not applicable.
Packing group:	Not applicable.
EMS Number:	Not applicable.
Marine pollutant:	Not applicable.
Proper shipping name:	Not applicable.

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class:	Not applicable.
UN/ID Number:	Not applicable.
Label:	Not applicable.
Packing Group:	Not applicable.
Proper Shipping Name:	Not applicable.

15. Regulatory information

Inventory Status: TSCA (USA), CEPA (Canada, DSL), EINECS (EU), China, TCCL (Korea, KECI), RA6969 (Philippines, PICCS), NICNAS (Australia, AICS), IEC (Japan)
WHMIS Classification: Class D, div 2b. .
Safety phrases: 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advise.
California Prop. 65: Does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.
SARA Hazard Classification: Acute Health Hazard

SARA 313 Component(s):	**HMIS**	**Health**	**1**	**Flammability**	**0**	**Reactivity**	**0**	**Other**
	NFPA	**Health**	**1**	**Flammability**	**0**	**Reactivity**	**0**	**Other**

16. Other information

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the chemical team at Westend Products.

SAFETY DATA SHEET

1. Identification

Product number 1000000070

Product identifier **GLASS CLEANER**

Company information SPRAYWAY INC.
1005 S Westgate Drive
Addison, IL 60101 United States

Company phone General Assistance 1-630-628-3000

Emergency telephone US 1-866-836-8855

Emergency telephone outside US 1-952-852-4646

Version # 01

Recommended use cleaner

Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Gases under pressure Liquefied gas

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-Butoxyethanol		111-76-2	2.5 - 10
Ethyl Alcohol		64-17-5	2.5 - 10
Butane		106-97-8	1 - 2.5
Propane		74-98-6	1 - 2.5
Other components below reportable levels			90 - 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if symptoms persist.

Skin contact	Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. See Section 8 of the SDS for Personal Protective Equipment. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not re-use empty containers. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Level 1 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3
		50 ppm
Ethyl Alcohol (CAS 64-17-5)	PEL	1900 mg/m3
		1000 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm
Butane (CAS 106-97-8)	STEL	1000 ppm
Ethyl Alcohol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	TWA	24 mg/m3
		5 ppm
Butane (CAS 106-97-8)	TWA	1900 mg/m3
		800 ppm
Ethyl Alcohol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3
		1000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Butoxyethanol (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Butoxyethanol (CAS 111-76-2) Skin designation applies.

US - Tennesse OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Hand protection For prolonged or repeated skin contact use suitable protective gloves.

Skin protection

Other Wear suitable protective clothing.

Respiratory protection	If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Gas.
Form	Aerosol. Liquefied gas.
Color	Light yellow.
Odor	Characteristic.
Odor threshold	Not available.
pH	9.1 - 10.1 estimated
Melting point/freezing point	Not available.
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	-156.0 °F (-104.4 °C) Propellant estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	80 - 100 psig @70F estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Aerosol spray enclosed space	
Deflagration density	> 2.52 g/cm3 Tested
Aerosol spray ignition distance	< 15 cm Tested estimated
Specific gravity	0.977 - 0.997

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity May be harmful if swallowed. May be harmful in contact with skin. May be harmful if inhaled. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
2-Butoxyethanol (CAS 111-76-2)		
Acute		
Dermal		
LD50	Guinea pig	230 ml/kg, 24 Hours
		7.3 ml/kg, 4 Days
	Rabbit	450 ml/kg, 24 Hours
		435 mg/kg, 24 Hours
		0.63 ml/kg
	Rat	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rabbit	400 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
Oral		
LD100	Rabbit	695 mg/kg
LD50	Dog	> 695 mg/kg
	Guinea pig	1200 mg/kg
	Rat	530 - 2800 mg/kg
Butane (CAS 106-97-8)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
Ethyl Alcohol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Cat	85.41 mg/l, 4.5 Hours
		43.68 mg/l, 6 Hours
	Mouse	> 60000 ppm
		79.43 mg/l, 134 Minutes
	Rat	> 115.9 mg/l, 4 Hours

Components	Species	Test Results
		51.3 mg/l, 6 Hours
Oral		
LD50	Monkey	6000 mg/kg
	Mouse	10500 ml/kg
	Rat	1187 - 2769 mg/kg
		7800 ml/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation May be irritating to the skin. Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation. May be irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard. Not likely, due to the form of the product.

Chronic effects Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
GLASS CLEANER (CAS Mixture)			
Aquatic			
Crustacea	EC50	Daphnia	13838.1602 mg/l, 48 hours estimated

Components		Species	Test Results
2-Butoxyethanol (CAS 111-76-2)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours

Components		Species	Test Results
Ethyl Alcohol (CAS 64-17-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	7700 - 11200 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100.1 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

2-Butoxyethanol	0.83
Butane	2.89
Ethyl Alcohol	-0.31
Propane	2.36

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Label(s) 2.2
Packing group Not applicable.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number UN1950
UN proper shipping name Aerosols, non-flammable
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Label(s) 2.2
Packing group Not applicable.
Environmental hazards No.
ERG Code 2L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging Exceptions	LTD QTY

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
Propane (CAS 74-98-6)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Butoxyethanol (CAS 111-76-2)
Butane (CAS 106-97-8)
Ethyl Alcohol (CAS 64-17-5)
Propane (CAS 74-98-6)

US. Rhode Island RTK

Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 07-11-2015

Version # 01

References EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**Glisten PC Two-Component Clearcoat**
Product Use/Restriction:	Clear coat
Manufacturer Name:	POR-15, Inc.
Address:	P.O. Box 1235 Morristown, NJ 07962-1235
General Phone Number:	800-457-6715
Customer Service Phone Number:	973-887-1999
Technical Product Information:	800-457-6715
Emergency Phone Number:	1-800-457-6715
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
MSDS Format:	ANSI

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EEC Num.
Xylene	1330-20-7	- 1 by weight	

SECTION 3 - HAZARDS IDENTIFICATION

Route of Exposure:

Potential Health Effects: Eyes: severe irritation; tearing skin, discoloration: drying; breathing: irritation, dizziness, unconsciousness (for solvent).

For isocyanates: coughing, irritation of mucous membranes and respiratory tract.

SKIN EFFECTS: Slight to moderate irritation; skin sensitizer in guinea pigs. No conclusive evidence has been developed to indicate that Glisten PC is carcinogenic, teratogenic or that it causes reproductive effects in animals or humans. Active resin in Glisten PC has been reported by NIOSH to be mutagenic to Salmonella Typhimurium bacteria in the presence of a mammalian liver activation system. There is not full agreement in the scientific community on the significance of these Ames test results and their relationship to human safety in assessing the risk of cancer in man.

Eye: HUMAN EFFECTS OF OVEREXPOSURE:
Liquid, vapors, or aerosols are irritating to the eyes and can cause lachrymation (tearing effect). Corneal damage can occur; however, indications are that the damage is reversible and does not result in permanent injury.

Skin: HUMAN EFFECTS OF OVEREXPOSURE:
Glisten PC reacts with skin protein and tissue moisture and can cause localized irritation as well as discoloration. Prolonged contact could produce reddening, swelling, or blistering and, in some individuals, skin sensitization resulting in dermatitis.

Inhalation: HUMAN EFFECTS OF OVEREXPOSURE:
Inhalation of Glisten PC vapors in concentrations above 0.02 ppm can produce irritation of the mucous membranes in the respiratory tract, running nose, sore throat, productive cough and a reduction of lung function. Extensive exposures to concentrations well above the TLV could lead to bronchitis, bronchial spasm and pulmonary edema. These effects are usually reversible. However, due to low volatility, high exposures are not anticipated except if the material is overheated or sprayed as an aerosol into the air. Hypersensitivity pneumonitis has also been reported. Another type of response is hyperreactivity or hypersensitization. Persons with a preexisting unspecific bronchial hyperreactivity or persons with a specific isocyanate hypersensitivity (as a result of previous repeated overexposure or a single large dosage)will respond to small isocyanate concentrations at levels well below the TLV of 0.02 ppm. Symptoms could be immediate or delayed and include chest tightness, respiratory distress or asthmatic attack.

Ingestion: HUMAN EFFECTS OF OVEREXPOSURE:
Ingestion could result in irritation and some corrosive action in the mouth, stomach tissue and digestive tract. However, it is not considered a common occupational route of exposure.

Chronic Health Effects:

Signs/Symptoms:

Target Organs:

Aggravation of Pre-Existing Conditions:

SECTION 4 - FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes occasionally lifting eyelids. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation

	develops or persists. Wash contaminated clothing thoroughly before re-use.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention if necessary. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.Give 250 ml of milk or water to drink. Consult physician.
Note to Physicians:	
Other First Aid:	

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties:	Combustible liquid. At elevated temperatures, vapors can form an ignitable mixture with air. Vapors can flow along surfaces to distant ignition sources and flash back.
Flash Point:	40°C (104°F)
Flash Point Method:	TCC
Auto Ignition Temperature:	246°C (475°F)
Lower Flammable/Explosive Limit:	1%
Upper Flammable/Explosive Limit:	7%
Fire Fighting Instructions:	Avoid spreading burning liquid with water for cooling purposes.
Extinguishing Media:	Dry chemical (e.g. monoammonium phosphate, potassium sulfate, and potassium chloride), carbon dioxide, high expansion (proteinic) chemical foam, sand.
Unsuitable Media:	
Protective Equipment:	As in any fire wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Keep work areas free of hot metal surfaces and other sources of ignition.
Hazardous Combustion Byproducts:	

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	
Environmental Precautions:	
Spill Cleanup Measures:	Eliminate source of ignition of vapors, wear protective clothing while cleaning up; absorb on sand, clay, or absorbent material.
Other Precautions:	

SECTION 7 - HANDLING and STORAGE

Handling:	
Storage:	STORAGE TEMPERATURE (min/max): 32 deg F (0 deg C)/122 deg F (50 deg C) AVERAGE SHELF LIFE: 12 months @ 77 deg F (25 deg C) Store in tightly closed container. At maximum storage temperatures noted, material may slowly polymerize without hazard. Ideal storage temperature range is 50-81 deg F (10-27 deg C).
Work Practices:	
Special Handling Procedures:	
Hygiene Practices:	

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.Ventilation as required to maintain air concentrations below TLV's. If material is spray-applied, ventilation should be provided and air supplied respirators worn. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166. Contact lenses should not be worn.
Skin Protection Description:	Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered to a minimum. & dbo_Section8.HandProtectionDescription
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister approved for use in isocyanate containing environments may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. In spray applications you must protect against exposure to both vapor and spray mist. An air-supplied respirator is strongly recommended for spray application. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Eyewash and deluge shower should be available.

G

EXPOSURE GUIDELINES	G

Notes :

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Flash Point:	40°C (104°F)
Flash Point Method:	TCC
Auto Ignition Temperature:	246°C (475°F)
VOC Content:	595 gm/liter

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal conditions.
Reactivity:	
Hazardous Polymerization:	Will not occur under normal conditions.
Conditions to Avoid:	Temperatures below 0°C (32°F) or above 50°C (122°F). To maintain freshness: Avoid contact with water, alcohols, amines, strong bases, metal compounds or surface active materials.
Incompatible Materials:	
Special Decomposition Products:	

SECTION 11 - TOXICOLOGICAL INFORMATION

SECTION 12 - ECOLOGICAL INFORMATION

SECTION 13 - DISPOSAL CONSIDERATIONS

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	Paint
DOT UN Number:	UN1263
DOT Hazard Class:	3
DOT Packing Group:	III

SECTION 15 - REGULATORY INFORMATION

SECTION 16 - ADDITIONAL INFORMATION

Material Safety Data Sheet

DOW CHEMICAL CANADA ULC

Product name: GREAT STUFF™ Big Gap Filler Insulating Foam Sealant 12oz HC EF 12ct

Issue Date: 11/05/2015

Print Date: 11/06/2015

DOW CHEMICAL CANADA ULC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: GREAT STUFF™ Big Gap Filler Insulating Foam Sealant 12oz HC EF 12ct

Recommended use of the chemical and restrictions on use
Identified uses: Polyurethane foam.

COMPANY IDENTIFICATION
DOW CHEMICAL CANADA ULC
SUITE 2100
450 - 1ST STREET S.W.
CALGARY AB T2P 5H1
CANADA

For MSDS Updates and Product Information: 800-258-2436
Prepared by: Prepared for use in Canada by EH&S, Hazard Communications.
Revision Date: 11/05/2015
Print Date: 11/06/2015

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 613-996-6666

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Physical state	Foam
Color	Yellow
Odor	Mild

Hazard Summary	**DANGER!!** Extremely flammable liquid and vapor - Vapor may cause flash fire. May cause allergic skin reaction. May cause eye irritation. May cause skin irritation. Vapor reduces oxygen available for breathing. May cause anesthetic effects. May cause respiratory tract irritation. May cause lung injury. Vapors may travel a long distance; ignition and/or flash back may occur. Evacuate area. Keep upwind of spill. Stay out of low areas. Aerosol cans exposed to fire can rupture becoming flaming projectiles. Elevated temperatures can cause hazardous polymerization. Toxic fumes may be released in fire situations. Highly toxic to fish and/or other aquatic organisms. Contents under pressure. Containers are under high pressure. Avoid temperatures above 40°C (104°F)

Potential Health Effects

Eyes: May cause eye irritation.
May cause slight temporary corneal injury.

Skin: Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.
Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Inhalation: In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen.
Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.
May cause pulmonary edema (fluid in the lungs.)
Effects may be delayed.
May cause central nervous system depression.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.
Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats).
Decreased lung function has been associated with overexposure to isocyanates.
May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.

Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Ingestion: Low toxicity if swallowed.
Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Observations in animals include:
Gastrointestinal irritation.
Based on physical properties, not likely to be an aspiration hazard.

Chronic Exposure: Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
Contains component(s) which have been reported to cause effects on the following organs in animals:
Kidney.
Liver.
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Polyurethane prepolymer
This product is a mixture.

Component	CASRN	Weight percent	
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %	Hazardous components
Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer	57029-46-6	>= 30.0 - <= 60.0 %	
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 10.0 - <= 30.0 %	
Tris(1-chloro-2-propyl) phosphate	13674-84-5	>= 5.0 - <= 10.0 %	
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %	
Isobutane	75-28-5	>= 5.0 - <= 10.0 %	Hazardous components
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %	Hazardous components
Propane	74-98-6	>= 1.0 - <= 5.0 %	Hazardous components
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 5.0 - <= 10.0 %	Hazardous components

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Repeated excessive exposure may aggravate preexisting lung disease. Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Although cholinesterase depression has been reported with this material, it is not of benefit in determining exposure and need not be considered in the treatment of persons exposed to the material. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. For large spills, warn public of downwind explosion hazard. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Confined space entry procedures must be followed before entering the area. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Ground and bond all containers and handling equipment. Isolate area until gas has dispersed. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Collect in suitable and properly labeled containers. Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Sawdust. Vermiculite. See Section 10 for more specific information. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Contents under pressure. Do not puncture or incinerate container. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Do not enter confined spaces unless adequately ventilated. Never use air pressure for transferring product. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. See Section 10 for more specific information.

Storage stability

Storage temperature:	**Storage Period:**
25 °C	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Diphenylmethane Diisocyanate, isomers and homologues	CA AB OEL	TWA	0.07 mg/m3 0.005 ppm
	CA BC OEL	TWA	0.005 ppm
	CA BC OEL	C	0.01 ppm
	CA BC OEL	TWA	SKIN, SEN
	CA BC OEL	C	SEN
Isobutane	ACGIH	STEL	1,000 ppm
	CA AB OEL	TWA	1,000 ppm
	CA BC OEL	TWA	1,000 ppm
	CA ON OEL	TWA	800 ppm

Methyl ether	US WEEL	TWA	1,000 ppm
	CA BC OEL	TWA	1,000 ppm
Propane	ACGIH		Asphyxiant
	CA AB OEL	TWA	1,000 ppm
	CA BC OEL	TWA	1,000 ppm
	CA QC OEL	TWAEV	1,800 mg/m3 1,000 ppm
	CA ON OEL	TWA	1,000 ppm
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	CA AB OEL	TWA	0.05 mg/m3 0.005 ppm
	CA BC OEL	TWA	0.005 ppm
	CA BC OEL	C	0.01 ppm
	CA BC OEL	TWA	SKIN, SEN
	CA QC OEL	TWAEV	0.051 mg/m3 0.005 ppm
	CA BC OEL	C	SKIN, SEN
	CA QC OEL	TWAEV	SKIN, SEN
	CA ON OEL	TWA	0.005 ppm
	CA ON OEL	C	0.02 ppm

Consult local authorities for recommended exposure limits.

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is

unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Foam
Color	Yellow
Odor	Mild
Odor Threshold	No test data available
pH	*Not applicable*
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** -104 °C *Estimated.*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Flammable gas.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	1,151 kPa at 55 °C *Calculated.*
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.06 *Estimated.*
Water solubility	Insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Acids.

Conditions to avoid: Avoid temperatures above 50 °C
Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine

and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.

The LC50 has not been determined.,

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.

Serious eye damage/eye irritation
May cause eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.
Occasionally, breathing difficulties may be life threatening.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
Contains component(s) which have been reported to cause effects on the following organs in animals: kidney
Liver.

Carcinogenicity
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
Based on information for component(s): May cause harm to breastfed babies.

Mutagenicity

In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity

Component	**List**	**Classification**
Paraffin waxes and Hydrocarbon waxes, chlorinated	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Diphenylmethane Diisocyanate, isomers and homologues

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l

EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute toxicity to fish

For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Tris(1-chloro-2-propyl) phosphate

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 84 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 131 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth rate inhibition, 82 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, activated sludge, Respiration inhibition, 3 Hour, 784 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 32 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 32 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.1 mg/l

Isobutane

Acute toxicity to fish

No relevant data found.

Methyl ether

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

Propane

Acute toxicity to fish
No relevant data found.

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Persistence and degradability

Diphenylmethane Diisocyanate, isomers and homologues

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Biodegradability: Expected to degrade slowly in the environment.

Tris(1-chloro-2-propyl) phosphate

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 14 %
Exposure time: 28 d
Method: OECD Test Guideline 301E or Equivalent
10-day Window: Not applicable
Biodegradation: 95 %
Exposure time: 64 d
Method: OECD Test Guideline 302A or Equivalent

Theoretical Oxygen Demand: 1.17 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.24 d
Method: Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Biodegradability: Expected to degrade slowly in the environment.

Theoretical Oxygen Demand: 2.89 mg/mg

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Methyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 6.4 d

Method: Estimated.

Propane

Biodegradability: No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8.4 d
Method: Estimated.

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Bioaccumulative potential

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Bioaccumulation: No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.59 Measured
Bioconcentration factor (BCF): 0.8 - 4.6 Cyprinus carpio (Carp) 42 d Measured

Paraffin waxes and Hydrocarbon waxes, chlorinated

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 7.4 Estimated.

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Methyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

Propane
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

4,4' -Methylenediphenyl diisocyanate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Mobility in soil

Diphenylmethane Diisocyanate, isomers and homologues
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer
No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate
Potential for mobility in soil is slight (Koc between 2000 and 5000).
Partition coefficient(Koc): 1300 Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient(Koc): > 5000 Estimated.

Isobutane
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 35 Estimated.

Methyl ether
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.29 - 14 Estimated.

Propane
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 - 460 Estimated.

4,4' -Methylenediphenyl diisocyanate
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

TDG

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	Paraffin waxes and Hydrocarbon waxes, chlorinated
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Hazardous Products Act Information: CPR Compliance
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification
Hazards

B5	Flammable aerosol
D2A	Respiratory Tract Sensitizer
D2B	Eye or Skin Irritant
D2B	Skin Sensitizer

Canadian Domestic Substances List (DSL) (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. OTHER INFORMATION

Revision
Identification Number: 101194255 / A208 / Issue Date: 11/05/2015 / Version: 7.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Asphyxiant	Asphyxiant
C	ceiling limit
CA AB OEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	Canada. British Columbia OEL
CA ON OEL	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
SEN	Sensitizer
SKIN, SEN	Absorbed via Skin, Sensitizer
STEL	Short-term exposure limit
TWA	8-hour time weighted average
TWAEV	Time-weighted average exposure value
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW CHEMICAL CANADA ULC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: GREAT STUFF™ Gaps & Cracks Insulating Foam Sealant 12oz HC ES QP

Issue Date: 01/06/2016

Print Date: 01/07/2016

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: GREAT STUFF™ Gaps & Cracks Insulating Foam Sealant 12oz HC ES QP

Recommended use of the chemical and restrictions on use
Identified uses: Polyurethane foam.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Flammable aerosols - Category 2
Gases under pressure - Liquefied gas
Acute toxicity - Category 4 - Inhalation
Skin irritation - Category 2
Eye irritation - Category 2B
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Effects on or via lactation
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin and eye irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause harm to breast-fed children.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid contact during pregnancy/ while nursing.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
In case of inadequate ventilation wear respiratory protection.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Polyurethane prepolymer
This product is a mixture.

Component	CASRN	Concentration
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 10.0 - <= 30.0 %
Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer	57029-46-6	>= 10.0 - <= 30.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 10.0 - <= 30.0 %
Tris(1-chloro-2-propyl) phosphate	13674-84-5	>= 5.0 - <= 10.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 7.0 - <= 13.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are

heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Confined space entry procedures must be followed before entering the area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Ground and bond all containers and handling equipment. Isolate area until gas has dispersed. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Collect in suitable and properly labeled containers. Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Sawdust. Vermiculite. See Section 10 for more specific information. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. No smoking, open flames or sources of ignition in handling and storage area. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Never use air pressure for transferring product. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Keep out of reach of children. Vapors are heavier than air and may travel a long distance

and accumulate in low lying areas. Ignition and/or flash back may occur. Contents under pressure. Do not puncture or incinerate container. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Do not enter confined spaces unless adequately ventilated. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. See Section 10 for more specific information.

Storage stability

Storage temperature:	Storage Period:
25 °C (77 °F)	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
4,4' -Methylenediphenyl diisocyanate	Dow IHG	TWA	0.005 ppm
	Dow IHG	STEL	0.02 ppm
	ACGIH	TWA	0.005 ppm
	OSHA Z-1	C	0.2 mg/m3 0.02 ppm
	NIOSH REL	TWA	0.05 mg/m3 0.005 ppm
	NIOSH REL	C	0.2 mg/m3 0.02 ppm
Isobutane	ACGIH	STEL	1,000 ppm
Methyl ether	US WEEL	TWA	1,000 ppm
Propane	ACGIH		Asphyxiant
	OSHA Z-1	TWA	1,800 mg/m3 1,000 ppm

This material contains a simple asphyxiant which may displace oxygen. Insure adequate ventilation to prevent an oxygen deficient atmosphere.
The minimum requirement of 19.5% oxygen at sea level (148 torr O2, dry air) provides an adequate amount of oxygen for most work assignments.

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove

barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Foam
Color	Yellow
Odor	Mild
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** -104 °C (-155 °F) *Closed Cup*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	1,151 hPa at 55 °C (131 °F) *Not reported* Container is under pressure.
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.06 *Estimated.*
Water solubility	Insoluble
Partition coefficient: n-octanol/water	No data available

Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Acids.

Conditions to avoid: Avoid temperatures above 50 °C
Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Carcinogenicity
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory

irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
Based on information for component(s): May cause harm to breastfed babies.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Diphenylmethane Diisocyanate, isomers and homologues

Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, 0.49 mg/l

For similar material(s): 2,4'-Diphenylmethane diisocyanate (CAS 5873-54-1). LC50, Rat, 4 Hour, Aerosol, 0.31 mg/l

For similar material(s): 4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8). LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

4,4' -Methylenediphenyl diisocyanate

Acute inhalation toxicity
LC50, Rat, 1 Hour, dust/mist, 2.24 mg/l

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute inhalation toxicity
The LC50 has not been determined.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute inhalation toxicity
The LC50 has not been determined.

Tris(1-chloro-2-propyl) phosphate

Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, > 7 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute inhalation toxicity
The LC50 has not been determined.

Isobutane

Acute inhalation toxicity
LC50, Mouse, 1 Hour, 52 mg/l

Methyl ether

Acute inhalation toxicity
LC50, Rat, 4 Hour, gas, 164000 ppm

Propane

Acute inhalation toxicity
LC50, Rat, male and female, 4 Hour, vapour, > 425000 ppm

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Diphenylmethane Diisocyanate, isomers and homologues

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.

Tris(1-chloro-2-propyl) phosphate

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 84 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 131 mg/l

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth rate inhibition, 82 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, activated sludge, Respiration inhibition, 3 Hour, 784 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 32 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 32 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.1 mg/l

Isobutane

Acute toxicity to fish
No relevant data found.

Methyl ether

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

Propane

Acute toxicity to fish
No relevant data found.

Persistence and degradability

Diphenylmethane Diisocyanate, isomers and homologues

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Biodegradability: Expected to degrade slowly in the environment.

Tris(1-chloro-2-propyl) phosphate

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 14 %
Exposure time: 28 d
Method: OECD Test Guideline 301E or Equivalent
10-day Window: Not applicable
Biodegradation: 95 %
Exposure time: 64 d
Method: OECD Test Guideline 302A or Equivalent

Theoretical Oxygen Demand: 1.17 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.24 d
Method: Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Biodegradability: Expected to degrade slowly in the environment.

Theoretical Oxygen Demand: 2.89 mg/mg

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Methyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 6.4 d
Method: Estimated.

Propane

Biodegradability: No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8.4 d
Method: Estimated.

Bioaccumulative potential

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Bioaccumulation: No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.59 Measured
Bioconcentration factor (BCF): 0.8 - 4.6 Cyprinus carpio (Carp) 42 d Measured

Paraffin waxes and Hydrocarbon waxes, chlorinated

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 7.4 Estimated.

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Methyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

Propane
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

Mobility in soil

Diphenylmethane Diisocyanate, isomers and homologues
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

4,4' -Methylenediphenyl diisocyanate
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer
No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate
Potential for mobility in soil is slight (Koc between 2000 and 5000).
Partition coefficient(Koc): 1300 Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated
Expected to be relatively immobile in soil (Koc > 5000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): > 5000 Estimated.

Isobutane
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 35 Estimated.

Methyl ether
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.29 - 14 Estimated.

Propane
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 - 460 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and

compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Aerosols
UN number	UN 1950
Class	2.1
Packing group	
Reportable Quantity	MDI

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	Paraffin waxes and Hydrocarbon waxes, chlorinated
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9
4,4' -Methylenediphenyl diisocyanate	101-68-8

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Isobutane	75-28-5
Methyl ether	115-10-6
Propane	74-98-6

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Revision
Identification Number: 101265380 / A001 / Issue Date: 01/06/2016 / Version: 8.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Asphyxiant	Asphyxiant
C	Ceiling

Dow IHG	Dow Industrial Hygiene Guideline
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: GREAT STUFF™ Gaps & Cracks Insulating Foam Sealant 12oz HC ES QP **Issue Date:** 11/05/2015

Print Date: 11/06/2015

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: GREAT STUFF™ Gaps & Cracks Insulating Foam Sealant 12oz HC ES QP

Recommended use of the chemical and restrictions on use
Identified uses: Polyurethane foam.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Flammable aerosols - Category 2
Gases under pressure - Liquefied gas
Acute toxicity - Category 4 - Inhalation
Skin irritation - Category 2
Eye irritation - Category 2B
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Carcinogenicity - Category 2
Effects on or via lactation
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin and eye irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause harm to breast-fed children.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid contact during pregnancy/ while nursing.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
In case of inadequate ventilation wear respiratory protection.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Polyurethane prepolymer
This product is a mixture.

Component	CASRN	Concentration
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 10.0 - <= 30.0 %
Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer	57029-46-6	>= 10.0 - <= 30.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 10.0 - <= 30.0 %
Tris(1-chloro-2-propyl) phosphate	13674-84-5	>= 5.0 - <= 10.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 7.0 - <= 13.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Confined space entry procedures must be followed before entering the area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Ground and bond all containers and handling equipment. Isolate area until gas has dispersed. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Collect in suitable and properly labeled containers. Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Sawdust. Vermiculite. See Section 10 for more specific information. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. No smoking, open flames or sources of ignition in handling and storage area. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Never use air pressure for transferring product. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Keep out of reach of children. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Contents under pressure. Do not puncture or incinerate container. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Do not enter confined spaces unless adequately ventilated. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. See Section 10 for more specific information.

Storage stability

Storage temperature:	Storage Period:
25 °C (77 °F)	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Z-1	C	0.2 mg/m3 0.02 ppm
	NIOSH REL	TWA	0.05 mg/m3 0.005 ppm
	NIOSH REL	C	0.2 mg/m3 0.02 ppm
Isobutane	ACGIH	STEL	1,000 ppm
Methyl ether	US WEEL	TWA	1,000 ppm
Propane	ACGIH		Asphyxiant
	OSHA Z-1	TWA	1,800 mg/m3 1,000 ppm

This material contains a simple asphyxiant which may displace oxygen. Insure adequate ventilation to prevent an oxygen deficient atmosphere.
The minimum requirement of 19.5% oxygen at sea level (148 torr O2, dry air) provides an adequate amount of oxygen for most work assignments.

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Foam
Color	Yellow
Odor	Mild
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** -104 °C (-155 °F) *Closed Cup*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	1,151 hPa at 55 °C (131 °F) *Not reported* Container is under pressure.

Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.06 *Estimated.*
Water solubility	Insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Acids.

Conditions to avoid: Avoid temperatures above 50 °C
Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Carcinogenicity
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
Based on information for component(s): May cause harm to breastfed babies.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Diphenylmethane Diisocyanate, isomers and homologues

Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, 0.49 mg/l

For similar material(s): 2,4'-Diphenylmethane diisocyanate (CAS 5873-54-1). LC50, Rat, 4 Hour, Aerosol, 0.31 mg/l

For similar material(s): 4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8). LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

4,4' -Methylenediphenyl diisocyanate

Acute inhalation toxicity
LC50, Rat, 1 Hour, dust/mist, 2.24 mg/l

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute inhalation toxicity
The LC50 has not been determined.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute inhalation toxicity
The LC50 has not been determined.

Tris(1-chloro-2-propyl) phosphate

Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, > 7 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute inhalation toxicity
As product: The LC50 has not been determined.

Isobutane

Acute inhalation toxicity
LC50, Mouse, 1 Hour, 52 mg/l

Methyl ether

Acute inhalation toxicity
LC50, Rat, 4 Hour, gas, 164000 ppm

Propane

Acute inhalation toxicity
LC50, Rat, male and female, 4 Hour, vapour, > 425000 ppm

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Diphenylmethane Diisocyanate, isomers and homologues

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l

EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms

EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants

EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute toxicity to fish

For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Tris(1-chloro-2-propyl) phosphate

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 84 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 131 mg/l

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth rate inhibition, 82 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, activated sludge, Respiration inhibition, 3 Hour, 784 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 32 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 32 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.1 mg/l

Isobutane

Acute toxicity to fish
No relevant data found.

Methyl ether

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

Propane

Acute toxicity to fish
No relevant data found.

Persistence and degradability

Diphenylmethane Diisocyanate, isomers and homologues

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Biodegradability: Expected to degrade slowly in the environment.

Tris(1-chloro-2-propyl) phosphate

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 14 %
Exposure time: 28 d
Method: OECD Test Guideline 301E or Equivalent
10-day Window: Not applicable
Biodegradation: 95 %
Exposure time: 64 d
Method: OECD Test Guideline 302A or Equivalent

Theoretical Oxygen Demand: 1.17 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.24 d
Method: Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Biodegradability: Expected to degrade slowly in the environment.

Theoretical Oxygen Demand: 2.89 mg/mg

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Methyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 6.4 d
Method: Estimated.

Propane

Biodegradability: No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8.4 d
Method: Estimated.

Bioaccumulative potential

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Bioaccumulation: No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.59 Measured
Bioconcentration factor (BCF): 0.8 - 4.6 Cyprinus carpio (Carp) 42 d Measured

Paraffin waxes and Hydrocarbon waxes, chlorinated

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 7.4 Estimated.

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Methyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

Propane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

Mobility in soil

Diphenylmethane Diisocyanate, isomers and homologues

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

4,4' -Methylenediphenyl diisocyanate

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Tris(1-chloro-2-propyl) phosphate

Potential for mobility in soil is slight (Koc between 2000 and 5000).
Partition coefficient(Koc): 1300 Estimated.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Expected to be relatively immobile in soil (Koc > 5000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): > 5000 Estimated.

Isobutane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 35 Estimated.

Methyl ether

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.29 - 14 Estimated.

Propane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 - 460 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Aerosols
UN number	UN 1950
Class	2.1
Packing group	
Reportable Quantity	MDI

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	Paraffin waxes and Hydrocarbon waxes, chlorinated
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service

representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9
4,4' -Methylenediphenyl diisocyanate	101-68-8

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Isobutane	75-28-5
Methyl ether	115-10-6
Propane	74-98-6

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Revision
Identification Number: 101265380 / A001 / Issue Date: 11/05/2015 / Version: 7.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Asphyxiant	Asphyxiant
C	Ceiling
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Havoline® Synthetic Blend Motor Oil

Product Use: Engine Oil
Product Number(s): CPS223700, CPS223701, CPS223702
Synonyms: Havoline® Synthetic Blend Motor Oil SAE 10W-30, Havoline® Synthetic Blend Motor Oil SAE 5W-20, Havoline® Synthetic Blend Motor Oil SAE 5W-30
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK
MSDS Requests: (800) 414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	60 - 100 %weight

SECTION 3 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory

irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Keep out of the reach of children.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation

Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Boiling Point: >315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 7 @ 15.6°C (60.1°F) / 15.6°C (60.1°F) (Typical)
Density: 0.9 kg/l @ 15°C (59°F) (Typical)
Viscosity: 46.4 - 63.5 mm2/s @ 40°C (104°F)
Evaporation Rate: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe

solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States). One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This is a new Material Safety Data Sheet.
Revision Date: SEPTEMBER 15, 2011

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Havoline Synthetic Blend Motor Oil SAE 0W-20

Product Use: Automotive Engine Oil
Product Number(s): 223703
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Not classified as hazardous according to Canada regulatory guidelines.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.
Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable

Vapor Pressure: <0.01 mmHg (Estimated) @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1 (Estimated)
Initial Boiling Point: 315°C (599°F) (Estimated)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.8469 kg/l @ 15°C (59°F) (Typical)
Viscosity: 8 mm2/s - 8.80 mm2/s @ 100°C (212°F)
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.For additional information on the acute toxicity of the components, call the technical information center.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER TRANSPORT CANADA (TDG)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16
Revision Date: MARCH 02, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Havoline Synthetic Blend Motor Oil SAE 0W-20

Product Use: Automotive Engine Oil
Product Number(s): 223703
Company Identification
Chevron Canada Limited
1050 West Pender
Vancouver, BC V6E 3T4
Canada
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 200 °C (392 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing

precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Do not get in eyes, on skin, or on clothing. Keep out of the reach of children. Wash thoroughly after handling.

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection

from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.8469 kg/l @ 15°C (59°F) (Typical)
Viscosity: 8 - 8.8 mm2/s @ 100°C (212°F)
Coefficient of Therm. Expansion / °F: No data available
Evaporation Rate: No data available
Odor Threshold: No data available
Coefficient of Water/Oil Distribution: No data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: LD50: >5000 mg/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.For additional information on the acute toxicity of the components, call the technical information center.
ADDITIONAL TOXICOLOGY INFORMATION:
During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).
These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.SM.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous

Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER TRANSPORT CANADA (TDG)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

DOT Shipping Description: NOT REGULATED AS A HAZARDOUS MATERIAL UNDER 49 CFR

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

35=WHMIS IDL

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

Revision Date: JANUARY 22, 2015

SECTION 16 OTHER INFORMATION

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0

LABEL RECOMMENDATION:
Label Category : ENGINE OIL 1 - ENG1

REVISION STATEMENT: This is a new Material Safety Data Sheet.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SAFETY DATA SHEET

Revision Date 06-May-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name HDX Lemon Ammonia

Other means of identification
Product UPC 59647-91004
Product Code 19718945031

Recommended use of the chemical and restrictions on use
Recommended Use Consumer use. Cleaning agent.
Uses advised against Do not mix with other chemicals

Details of the supplier of the safety data sheet
Manufacturer Address
KIK International LLC
33 Macintosh Blvd.
Concord, Ontario
Canada L4K 4L5
1-800-479-6603

Emergency telephone number
Emergency Telephone Poison Control Center (Medical) : (866) 366-5048
Chemtel (Transportation) 1-888-255-3924

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements
Causes severe skin burns and eye damage

Color yellow **Physical state** liquid **Odor** Lemon, Ammonia

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Keep out of reach of children. Store in a well-ventilated place. Store in a closed container.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
0.33136% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No.	Weight-%
Ammonia	7664-41-7	1 - 3*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water. If symptoms persist, call a physician.

Inhalation Remove to fresh air.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. If symptoms persist, call a physician.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Chlorine-based bleaching agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ammonia 7664-41-7	STEL: 35 ppm TWA: 25 ppm	TWA: 50 ppm TWA: 35 mg/m^3 (vacated) STEL: 35 ppm (vacated) STEL: 27 mg/m^3	IDLH: 300 ppm TWA: 25 ppm TWA: 18 mg/m^3 STEL: 35 ppm STEL: 27 mg/m^3

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls	Showers Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	clear, yellow	**Odor**	Lemon, Ammonia
Color	yellow	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	11.5-12.0	
Melting point/freezing point	No information available	
Boiling point / boiling range	100 °C / 212 °C °F	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.99 - 1.00	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Density	No information available	
Bulk density	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Stable under recommended storage conditions.
Possibility of Hazardous Reactions
None under normal processing.
Conditions to avoid
Do not mix with other chemicals. Extremes of temperature and direct sunlight.
Incompatible materials
Chlorine-based bleaching agents.
Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Avoid breathing vapors or mists.

Eye contact Avoid contact with eyes. May cause burns.

Skin contact Avoid contact with skin. May cause burns.

Ingestion May be harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonia 7664-41-7	= 350 mg/kg (Rat)	-	= 2000 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

0.36211% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ammonia 7664-41-7	-	0.44: 96 h Cyprinus carpio mg/L LC50 0.26 - 4.6: 96 h Lepomis macrochirus mg/L LC50 1.17: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.73 - 2.35: 96 h Pimephales promelas mg/L LC50	25.4: 48 h Daphnia magna mg/L LC50

		5.9: 96 h Pimephales promelas mg/L LC50 static 1.5: 96 h Poecilia reticulata mg/L LC50 1.19: 96 h Poecilia reticulata mg/L LC50 static	

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
Ammonia 7664-41-7	-1.14

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories
TSCA Complies
DSL/NDSL Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Ammonia - 7664-41-7	1.0

SARA 311/312 Hazard Categories
Acute health hazard Yes

Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ammonia 7664-41-7	100 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ammonia 7664-41-7	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ammonia 7664-41-7	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number This product does not contain any substances regulated as pesticides

Difference between SDS and CPSC label

This product is regulated under Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act (16 CFR Part 1500) . These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace product labels.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** B

Prepared By	Regulatory Affairs
Revision Date	06-May-2015
Revision Note	No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 20-May-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name Health Kote Int. Latex Primer

Other means of identification
Product Code DU-1590
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity	Category 1B

Emergency Overview

Danger

Hazard statements
May cause cancer

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
Unknown acute toxicity 28.58% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Kaolin	1332-58-7	10 - 30	*
Calcium carbonate	1317-65-3	5 - 10	*
Titanium dioxide	13463-67-7	5 - 10	*
Heavy Paraffinic Distillates, Solvent Dewaxed	64742-65-0	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Kaolin 1332-58-7	TWA: 2 mg/m³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Calcium carbonate 1317-65-3	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	No special technical protective measures are necessary.
Skin and body protection	No special technical protective measures are necessary.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	No information available
Color	No information available	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	9.0±0.2	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 100 °C / 212 °F	
Flash point	Not applicable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.33	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	11.11 lbs/gal
Bulk density	No information available
Percent solids by weight	47.1%
Percent volatile by weight	0.0%
Percent solids by volume	29.4%
Actual VOC (lbs/gal)	0
Actual VOC (grams/liter)	0
EPA VOC (lbs/gal)	0
EPA VOC (grams/liter)	0
EPA VOC (lb/gal solids)	0

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7	-	Group 2B	-	X
Heavy Paraffinic Distillates, Solvent Dewaxed 64742-65-0	A2	Group 1	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Eyes, lungs, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

36.11% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Heavy Paraffinic Distillates, Solvent Dewaxed 64742-65-0	-	5000: 96 h Oncorhynchus mykiss mg/L LC50	1000: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Does not comply *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Complies *
AICS	Complies *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Titanium dioxide - 13463-67-7	Carcinogen
Crystalline Silica - 14808-60-7	Carcinogen
Carbon Black - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Kaolin 1332-58-7	X	X	X
Calcium carbonate 1317-65-3	X	X	X
Titanium dioxide 13463-67-7	X	X	X
Propylene Glycol 57-55-6	X	-	X
Carbon Black 1333-86-4	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

This product contains no reportable Hazardous Air Pollutants

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 1*	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = *Chronic Health Hazard*

Revision Date 20-May-2015

Revision Note

No information available

Disclaimer

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End of Safety Data Sheet

Safety Data Sheet

Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-793-7776

Section 1. Chemical Product and Company Identification

Product name HEAVY DUTY CITRUS DEGREASER

Product use Industrial Solvent Degreaser

Product code R077

Date of issue 08/02/11 **Supersedes** 07/31/09

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-793-7776

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By
Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity

1 2 0

CAUTION!

COMBUSTIBLE. CAUSES EYE IRRITATION.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Inhalation. Skin contact Eye contact.

Eyes Causes eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin May cause skin irritation. May cause skin sensitization. May cause allergic reactions in certain individuals. Skin inflammation is characterized by itching, scaling, or reddening.

Inhalation Avoid breathing vapors, spray or mists. Over-exposure by inhalation may cause respiratory irritation.

Ingestion May be harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Chronic effects Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
None.						

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
ALKYL (C16-C18) METHYL ESTERS	67784-80-9	60 - 70
D-LIMONENE; orange distillate; citrus terpene; cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-	5989-27-5	20 - 30
NONYLPHENOXY POLY(ETHYLENEOXY) ETHANOL - npe; poly(oxy-1,2-ethanediyl) alpha-(nonylphenyl)-omega-hydroxy	9016-45-9	1 - 10

Section 4. First Aid Measures

Eye Contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact Wash affected area with soap or mild detergent and water. Remove contaminated clothing and shoes. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. If irritation persists, get medical attention.

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)

Flash Point Closed cup: 62.7°C (145°F) [Tagliabue.]

Flammable Limits Not determined.

Flammability COMBUSTIBLE.

Fire hazard COMBUSTIBLE LIQUID AND VAPOR. Keep away from heat, sparks and flame. Rags, steel wool or other wastes soaked with product may spontaneously catch fire if improperly discarded.

Fire-Fighting Procedures Use dry chemical, CO_2, water spray (fog) or foam. Fire-fighters should wear appropriate protective equipment. Do not release runoff from fire to drains or watercourses.

Section 6. Accidental Release Measures

Spill Clean up Eliminate all ignition sources. Put on appropriate personal protective equipment (see section 8). Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see section 8). Store and use away from heat, sparks, open flame or any other ignition source. Immediately after use, place rags, steel wool or other waste in a sealed, water-filled metal container. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists. Use only with adequate ventilation. Do not ingest. Observe label precautions. Wash thoroughly after handling. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage Keep away from heat and direct sunlight. Avoid all possible sources of ignition (spark or flame). Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name | **Exposure limits**

No exposure limit value known.

Personal Protective Equipment (PPE)

Eyes Safety glasses.

Body For prolonged or repeated handling, use gloves. Recommended: Neoprene gloves. Nitrile gloves. Rubber gloves.

Respiratory Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Section 9. Physical and Chemical Properties

Physical State Liquid.

pH Not applicable

Boiling Point Not determined.

Specific Gravity 0.88

Solubility Emulsifies in water.

Color Clear. Orange.

Odor Citrus

Vapor Pressure 0.04 kPa (0.3 mm Hg)

Vapor Density >1 [Air = 1]

Evaporation Rate Not determined.

VOC (Consumer) 202 (g/l). 1.68 lbs/gal (23.0%)

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Combustible materials should be stored away from extreme heat and away from strong oxidizing agents. Incompatible with some strong acids. Reactive with acidic clay (i.e. clay absorbent) Reactive or incompatible with the following materials: oxidizing materials.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Hazardous Decomposition Products carbon oxides (CO, CO_2)

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Nonylphenoxypoly(Ethyleneoxy)Ethanol	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-

Section 12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

Aquatic Ecotoxicity

Not available.

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Classification: - [Non-hazardous waste]

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	Not applicable.	Not a DOT controlled material (United States).	-	-	
IMDG Class	Not determined.				

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information

U.S. Federal Regulations

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

United States inventory (TSCA 8b): Not determined.

State Regulations

California Prop 65 No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.*

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SPRAY LUBRICANT WITH PTFE

MSDS No.: L508

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY
Address: 600 RADIATOR ROAD
City, ST Zip: INDIAN TRAIL, NC 28079
Country:

Contact: Robert Geer
Information Telephone Number: 704-684--181 1
Emergency Contact: RMPDC (877-740-5015)
Emergency Telephone Number: 303-623-5716
Emergency Restrictions:

Product Name: HEAVY DUTY SPRAY LUBRICANT WITH PTFE
MSDS No.: L508

Issue Date: 11/13/2012
Supersedes Date: 03/04/2008

II. Hazards Identification:

EMERGENCY OVERVIEW

Danger: Extremely Flammable. Harmful or fatal if swallowed. Eye and skin irritant. Contents under pressure.

Level 3 Aerosol

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects

Route(s) of Entry:

Absorption, Inhalation, and Ingestion.

Health Hazards (Acute and Chronic):

See Signs and Symptoms below

Signs and Symptoms:

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.
Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis, dizziness, respiratory or lung irritation.
Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

Medical Conditions Generally Aggravated by Exposure:

N/D

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

Potential Environmental Effects

Not Available

III. Composition/Information on Ingredients:

Chemical Name	CAS No.	% Range	Trade Secret
Butane	106-97-8	5.0-10.0	
Isobutane	75-28-5	7.0-13.0	
Naphthenic Petroleum Distillate	64742-52-5	40.0 - 70.0	
Propane	74-98-6	7.0-13.0	

IV. First Aid Measures:

Emergency and First Aid Procedures:

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SPRAY LUBRICANT WITH PTFE

MSDS No.: L508

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.
Inhalation: Remove to fresh air. If breathing becomes difficult get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

Note to Physicians:

N/D

V. Fire Fighting Measures:

Suitable Extinguishing Media:

Water Fog, Foam, Carbon Dioxide, Dry Chemical

Unsuitable Extinguishing Media:

Do not use forced water stream as this could cause the fire to spread.

Products of Combustion:

Avoid contact with strong oxidizers

Protection of Firefighters:

Wear self-contained positive pressure breathing apparatus and protective clothes. Use shield to protect from rupturing and venting containers. At elevated temperatures containers may vent, rupture or burst, even violently

VI. Accidental Release Measures:

Personal Precautions:

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental Precautions:

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred. Run off to sewer may create fire or explosion hazard.

Methods for Containment:

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

Methods for Cleanup:

Using a non-metalic scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material.

Other Information:

All equipment used with handling the concentrate must be grounded. If run-off occurs, notify proper authorities as required that a spill has occurred.

VII. Handling and Storage:

Handling Precautions:

Use with adequate ventilation and proper protective equipment.
Do not use or store near fire, sparks, or open flame. Do not puncture or incinerate container. Do not store at temperatures above 120°F, may cause container to vent, rupture, or burst.

Storage Precautions:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS! Danger: Flammable.

VIII. Exposure Controls/Personal Protection:

Chemical Name	OSHA PEL	ACGIH TLV	Other Limits
Butane	N/E	800 ppm	Not Available
Propane	N/E	1000 ppm	Not Available
Isobutane	1000 ppm	1000 ppm	Not Available
Naphthenic Petroleum Distillate	5 mg/m3	5 mg/m3	Not Available

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SPRAY LUBRICANT WITH PTFE

MSDS No.: L508

Engineering Controls:

Use with adequate ventilation. If TLV is exceeded, wear NIOSH approved respirator.

Personal Protective Equipment:

For prolonged exposure wear protective safety glasses, gloves, and apron.

IX. Physical and Chemical Properties:

Boiling Point: >300° F

Boiling Range: Not Available

Solubility In Water: Insoluble

Flash Point: < 20°F

Odor Threshold: Not Available

Vapor Density (AIR = 1): N/A

pH Range: Not Available

Decomposition Temp: Not Available

Lower Explosive Limit: 0.7%

Specific Gravity (H20 = 1): 0.90

Other Information: N/D

Melting Point: N/A

Freezing Point: Not Available

Evaporation Rate (Butyl Acetate = 1): N/A

Flash Point Method: Calculated

Appearance and Odor: Yellow amber oily liquid with mild hydrocarbon odor.

Vapor Pressure (mm Hg.): N/A

Partition Coefficient: Not Available

Auto-Ignition Temp: Not Available

Upper Explosive Limit: 5%

X. Stability and Reactivity:

Stability:

Stable

Conditions to Avoid:

See Incompatible Materials below

Incompatible Materials:

Avoid contact with strong oxidizers

Hazardous Decomposition Products:

Normal products of combustion, smoke, carbon dioxide, carbon monoxide, and sulfur trioxides.

Possibility of Hazardous Reactions:

Will not occur

XI. Toxicological Information:

N/D

XII. Ecological Information:

N/D

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

XIV. Transport Information:

Shipping Name: Not Available

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SPRAY LUBRICANT WITH PTFE

MSDS No.: L508

DOT Hazard Class: Not Available

DOT Subsidiary Hazard Class: Not Available

UN/NA#: Not Available

Packing Group: Not Available

Transportation Information:

DOT Hazard Class: ORM-D
Shipping Name: Consumer Commodity

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for international and air shipping purposes.

ICAO/IATA (US)
UN Number: UN1959
Shipping Name: Aerosols
Class: 2.1

International:

ICAO/IATA
UN Number: UN1950
Shipping Name: Aerosols
Class: 2.1

IMDG
UN Number: UN1950
Shipping Name: Aerosols
Class: 2.1
EmS: F-D, S-U

XV. Regulatory Information:

SARA 313 Reportable Chemicals.
None

USA TSCA: All components of this material are listed on the US TSCA Inventory.

State RTK Chemicals
Butane - 106-97-8
Isobutane - 75-28-5
Propane - 74-98-6

XVI. Other Information:

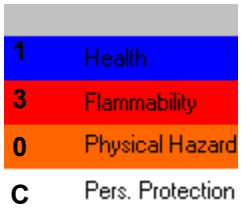
Chemical State: [X] Liquid [ ] Gas [ ] Solid

Chemical Type: [ ] Pure [X] Mixture

Hazard Category:

[X] Acute [ ] Chronic [X] Fire

[X] Pressure [ ] Reactive



Additional Manufacturer Warnings:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

Additional Product Information:

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

Safety Data Sheet

Section 1: Identification

Product identifier

Product Name • **HEET® Gas Line Antifreeze Line**

Synonyms • 584402

Product Code • 28201; 28203; 28205; 28213; 28219

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Gasoline fuel additive

Restrictions on use • Do not use in diesel fuel or add to gasoline/oil mixtures use in 2 cycle engines

Details of the supplier of the safety data sheet

Manufacturer • Gold Eagle Co.

4400 S. Kildare Avenue
Chicago, IL 60632-4372
United States
http://www.goldeagle.com/

Telephone (General) • 773-376-4400

Emergency telephone number

Manufacturer • 1-800-535-5053 - (INFOTRAC #22283)

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 •
Flammable Liquids 2
Skin Irritation 2
Eye Irritation 2
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
Reproductive Toxicity 2
Specific Target Organ Toxicity Single Exposure 1
Specific Target Organ Toxicity Repeated Exposure 1

Label elements

OSHA HCS 2012

DANGER

Hazard statements •
Highly flammable liquid and vapour
Causes skin irritation
Causes serious eye irritation

May cause drowsiness or dizziness
Suspected of damaging fertility or the unborn child.
Causes damage to organs - Eyes
Causes damage to organs - Eyes through prolonged or repeated exposure

Precautionary statements

Prevention

- Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
Keep container tightly closed.
Ground and/or bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection , .

Response

- In case of fire: Use appropriate media for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If skin irritation occurs: Get medical advice/attention.
Specific treatment, see supplemental first aid information.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
IF exposed: Call POISON CENTER or doctor/physician.

Storage/Disposal

- Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition				
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**
			Inhalation-Rat LC50 •	

Methanol	**CAS:**67-56-1	100%	64000 ppm 4 Hour(s) Skin-Rabbit LD50 • 15800 mg/kg Ingestion/Oral-Rat LD50 • 5600 mg/kg	**OSHA HCS 2012:** Flam. Liq. 2; Eye Irrit. 2; Skin Irrit. 2; STOT SE 1 (Eyes); STOT SE 3: Narc.; STOT RE 1 (Eyes); Repr. 2
Proprietary	*Proprietary*	0.0006% TO 0.0012%	Ingestion/Oral-Rat LD50 • 4300 mg/kg Inhalation-Rat LC50 • 5000 ppm 4 Hour(s) Skin-Rabbit LD50 • >1700 mg/kg	**OSHA HCS 2012:** Exposure limit(s)
Proprietary	*Proprietary*	0.0001996% TO 0.0003996%	Skin-Rabbit LD50 • 17800 µL/kg Ingestion/Oral-Rat LD50 • 3500 mg/kg Inhalation-Rat LC50 • 55000 mg/m³ 2 Hour(s)	**OSHA HCS 2012:** Exposure limit(s)

Section 4: First-Aid Measures

Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Wash skin with soap and water.

Eye
- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention immediately.

Ingestion
- Induce vomiting (only in conscious persons) Then give 2 teaspoons of baking soda in a glass of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media
- Use halon replacement or carbon dioxide extinguishers or alcohol foam for small fires. Large fires should be extinguished with alcohol foam.

Unsuitable Extinguishing Media
- Water spray or fog can cool fire but may not be effective in extinguishing fire.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Containers may explode when heated.
  Vapor explosion hazard indoors, outdoors or in sewers.
  HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
  Many liquids are lighter than water.
  Most vapors are heavier than air. They will spread along ground and collect in low or

confined areas (sewers, basements, tanks).
Runoff to sewer may create fire or explosion hazard.
Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

- No data available

Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
Move containers from fire area if you can do it without risk.
LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Ventilate the area. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE) Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing.

Emergency Procedures

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Use clean non-sparking tools to collect absorbed material.
A vapor suppressing foam may be used to reduce vapors.
All equipment used when handling the product must be grounded.
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.
LARGE SPILLS: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Use only with adequate ventilation. Keep away from heat, sparks, and flame. All equipment used when handling the product must be grounded. Take precautionary measures against static charges. Do not use sparking tools. Contact lenses should not be worn when working with this chemical. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage

- Keep container tightly closed. Keep away from sources of ignition – No Smoking. Store in a cool, dry, well-ventilated place. Empty containers contain product residues, assume emptied containers to have same hazards as full containers.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Proprietary (Proprietary)	TWAs	20 ppm TWA	100 ppm TWA; 435 mg/m3 TWA	100 ppm TWA; 435 mg/m3 TWA
	STELs	Not established	125 ppm STEL; 545 mg/m3 STEL	Not established
Proprietary (Proprietary)	TWAs	100 ppm TWA	Not established	100 ppm TWA; 435 mg/m3 TWA
	STELs	150 ppm STEL	Not established	Not established
Methanol (67-56-1)	TWAs	200 ppm TWA	200 ppm TWA; 260 mg/m3 TWA	200 ppm TWA; 260 mg/m3 TWA
	STELs	250 ppm STEL	250 ppm STEL; 325 mg/m3 STEL	Not established

Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use only appropriately classified electrical equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves. Wear protective clothing

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Water-white to pale yellow liquid.
Color	Water-white to pale yellow.	Odor	No data available
Odor Threshold	No data available		
General Properties			
Boiling Point	147 F(63.8889 C)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	= 0.791 Water=1	Water Solubility	Soluble 100 %
Viscosity	3 to 5 Centistoke (cSt, cS) or mm2/sec @ 40 C(104 F)		
Volatility			
Vapor Pressure	96 mmHg (torr)	Vapor Density	No data available
Evaporation Rate	No data available	VOC (Vol.)	100 %
Volatiles (Vol.)	100 %		
Flammability			

Flash Point	56 F(13.3333 C)	UEL	12.7 %
LEL	2 %	Autoignition	No data available
Flammability (solid, gas)	Not relevant.		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Keep away from heat, sparks, and flame.

Incompatible materials

- Strong oxidizing agents, aluminum, zinc, or metals that displace hydrogen, rubber and rubber based coatings, chromic anhydride, lead perchlorate and perchloric acids.

Hazardous decomposition products

- Excessive heating and/or incomplete combustion will produce carbon monoxide.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Methanol (100%)	67-56-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 5600 mg/kg; Inhalation-Rat LC50 • 64000 ppm 4 Hour(s); Skin-Rabbit LD50 • 15800 mg/kg; **Irritation:** Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 20 mg 24 Hour(s) • Moderate irritation; **Mutagen:** Cytogenetic analysis • Ingestion/Oral-Mouse • 1 g/kg; DNA damage • Ingestion/Oral-Rat • 10 µmol/kg; **Reproductive:** Inhalation-Mouse TCLo • 5000 ppm 7 Hour(s)(6-15D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Central nervous system**; *Reproductive Effects:Specific Developmental Abnormalities*:**Craniofacial (including nose and tongue)**; Inhalation-Mouse TCLo • 2000 ppm 7 Hour(s)(6-15D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**

GHS Properties	Classification
Respiratory sensitization	**OSHA HCS 2012** • Data lacking
Serious eye damage/Irritation	**OSHA HCS 2012** • Eye Irritation 2
Acute toxicity	**OSHA HCS 2012** • Data lacking
Aspiration Hazard	**OSHA HCS 2012** • Data lacking
Carcinogenicity	**OSHA HCS 2012** • Data lacking
Skin corrosion/Irritation	**OSHA HCS 2012** • Skin Irritation 2
Skin sensitization	**OSHA HCS 2012** • Data lacking
STOT-RE	**OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 1

STOT-SE	**OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 1; Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
Toxicity for Reproduction	**OSHA HCS 2012** • Toxic to Reproduction 2
Germ Cell Mutagenicity	**OSHA HCS 2012** • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)
- May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Causes skin irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- May cause headache, dizziness, weakness, euphoria, drowsiness, shortness of breath, vomiting, and loss of voluntary muscle control. Can also cause blindness and death.

Chronic (Delayed)
- No data available.

Other

Chronic (Delayed)
- Chronic poisoning from repeated exposure to methanol vapor were manifested by conjunctivitis, headache, giddiness, insomnia, gastric disturbances, and bilateral blindness.

Carcinogenic Effects
- This product does not contain any components above de minimus concentrations that are considered carcinogenic by OSHA , IARC or NTP .

Carcinogenic Effects		
	CAS	**IARC**
Proprietary	Proprietary	Group 2B-Possible Carcinogen

Reproductive Effects
- Animal tests for components have shown adverse reproductive effects.

Key to abbreviations
LD = Lethal Dose
TC = Toxic Concentration

Section 12 - Ecological Information

Toxicity

- Non-mandatory section - information about this substance not complied for this reason.

Persistence and degradability

- Non-mandatory section - information about this substance not complied for this reason.

Bioaccumulative potential

- Non-mandatory section - information about this substance not complied for this reason.

Mobility in Soil

- Non-mandatory section - information about this substance not complied for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not complied for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	ORM-D	Consumer commodity	NDA	NDA	NDA

Special precautions for user
- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute, Chronic, Fire

Inventory		
Component	**CAS**	**TSCA**
Proprietary	*Proprietary*	Yes
Methanol	67-56-1	Yes
Proprietary	*Proprietary*	Yes

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• *Proprietary*	*Proprietary*	(listed under Ethyl benzene)
• Methanol	67-56-1	
• *Proprietary*	*Proprietary*	(isomers and mixtures)

U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Toxic Substances

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• *Proprietary*	*Proprietary*	1000 lb final RQ; 454 kg final RQ
• Methanol	67-56-1	5000 lb final RQ; 2270 kg final RQ
• *Proprietary*	*Proprietary*	100 lb final RQ; 45.4 kg final RQ

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• *Proprietary*	*Proprietary*	0.1 % de minimis concentration
• Methanol	67-56-1	1.0 % de minimis concentration
• *Proprietary*	*Proprietary*	1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - CWA (Clean Water Act) - Hazardous Substances

• *Proprietary*	*Proprietary*	
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	

U.S. - CWA (Clean Water Act) - Toxic Pollutants

• *Proprietary*	*Proprietary*	
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• *Proprietary*	*Proprietary*	carcinogen, initial date 6/11/04
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	developmental toxicity, initial date 3/16/12
• *Proprietary*	*Proprietary*	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• *Proprietary*	*Proprietary*	54 µg/day NSRL (inhalation); 41 µg/day NSRL (oral)
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• *Proprietary*	*Proprietary*	Not Listed
• Methanol	67-56-1	Not Listed
• *Proprietary*	*Proprietary*	Not Listed

Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

Section 16 - Other Information

Revision Date
- 11/September/2015

Preparation Date
- 23/September/2014

Other Information
- Schedule B Number: 3820.00.0000.

Disclaimer/Statement of Liability
- Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts. However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Key to abbreviations

NDA = No data available

Initial Preparation Date: *09/24/98*
Revision Date: *04/10/12*
Effective Date: *02/7/14*

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTITY: HERCULINER™ PROTECTIVE COATING

1. SUPPLIER

OLD WORLD INDUSTRIES, LLC
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 847/559-2000
EMERGENCY PHONE: 800/424-9300 or 703/527-3887 (CHEMTREC)

2. INGREDIENTS

Hazardous Components	*CAS No.*	*OSHA PEL*	*ACGIH TLV*	*STEL*	*% Max.*
Xylene	1330-20-7	100 ppm	100 ppm	200 ppm	29.4

NOTE: See Section 11 – Possible Reporting Criteria

3. HAZARDS IDENTIFICATION

NFPA Hazard Rating System

Health: 1 ***Flammability: 3*** ***Reactivity: 0***

KEY: 1 = Slight 2 = Moderate 3 = High 4 = Extreme

HEALTH HAZARD DATA

Route(s) of Entry:

Inhalation:	Moderate
Skin:	Low
Ingestion:	Low
Eyes:	Moderate

Health Hazards (Acute and Chronic):

Ingestion: Will cause severe distress in mouth and throat
Inhalation: Vapors can cause respiratory irritation
Skin Contact: May cause blistering on contact
Eye Contact: Can cause blistering and severe pain

Carcinogenicity:	NTP:	No
	IARC Monographs:	No
	OSHA Regulated:	No
	ACGIH 1987-88:	No

Medical Conditions
Aggravated by Exposure: None known

4. FIRST AID MEASURES

INGESTION: Get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person.

INHALATION: Remove from contaminated area. Contact physician immediately.

SKIN CONTACT: Wipe with dry cloth or paper. Clean with solvent.

EYE CONTACT: Flush with large amounts of water as quickly as possible. Get medical attention quickly. Continue flushing until help arrives.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used):	81°F (TCC)
Flammable Limits:	1.0
UEL:	7.0

EXTINGUISHING MEDIA: Foam, dry chemical, carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES: Vapors can form explosive mixtures with air. Vapors are heavier than air and will flow along surface to distant ignition sources and flash back.

UNUSUAL FIRE FIGHTING HAZARD: Keep away from heat, sources of ignition, oxidizers.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Small Spills:	Absorb on suitable material (vermiculite, saw dust, sand). Sweep up.
Large Spills:	Contain spill; absorb on vermiculite or sand; shovel up and send to registered landfill.
Waste Disposal Method:	Contact local authorities for disposal rules.

7. HANDLING AND STORAGE

Keep container closed when not in use. Clean up all spills promptly. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	Organic vapor filter suggested.
Ventilation:	Maintain air movement.
Protective Gloves:	Solvent and chemical resistant required.
Eye Protection:	Plastic eye protection REQUIRED.
Other Protective Clothing or Equipment:	Boots suggested.
Work / Hygienic Practices:	Wash Hands After Handling.
Application:	Follow instructions; do not overuse product. Follow label directions.

9. PHYSICAL PROPERTIES

Boiling Point, Initial:	284º F
Vapor Pressure (mm Hg):	8 to 9 @ 25º C
Vapor Density (Air = 1):	3.0
pH:	N/A
Solubility in Water:	Forms solid gel
Appearance and Odor:	Pigmented liquid, hydrocarbon
Specific Gravity (Water =1):	1.06 or 0.865 Xylene only
Melting Point:	N/A
Evaporation Rate (Butyl Acetate = 1):	N/A
Flash Point:	81°F

10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibility (Materials to Avoid): Strong oxidizing agents, water
Hazardous Decomposition Products: Carbon monoxide
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Skin: Unknown
Ingestion: Unknown
Mutagenicity (The Effects On Genetic Material): Unknown
Significant Data With Possible Relevance To Humans: Unknown

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Movement & Partitioning: Unknown
Degradation & Transformation: Unknown
Ecotoxicology: Unknown

13. DISPOSAL CONSIDERATIONS

RCRA #: Unknown
EPA #: Unknown
RECYCLABLE: Unknown

14. TRANSPORT INFORMATION

DOT: (Highway & UPS Ground)	DOT Consumer Commodity Exemption (Part 172, 150)
Label's Required:	*Outer Packaging*: "Consumer Commodity - ORM-D" and ISO orientation arrows. *Pallets*: If "Consumer Commodity" on outer packaging is visible labeling not required. Otherwise label as "Consumer Commodity". *Container/Trailer:* None required.
IATA (Air):	IATA Limited Quantity Exemption (Part 2.8)
	For Shipping of product 10 Liters and Under in one Package: Packing Instruction Y309 (No UN Packaging Required).
Labels Required:	Paint, Flammable Liquid, 3, ISO orientation arrows, shipper and consignee information, and the statement "LTD. QTY".
	For Shipping of product over 10 Liters in one Package: Packing Instruction 309 or 310 dependent aircraft type (UN Packaging Required).
Labels Required:	Paint, Flammable Liquid, 3, ISO orientation arrows (cargo only aircraft label if applicable), shipper and consignee information.
IMDG (Ocean):	IMDG Exemption for Limited Quantities (IMDG 18.3, 3.2.6)
Label's Required:	*Outer Packaging*: (No requirements) *Pallets:* Dangerous Goods in Limited Quantities (Class 3 Flammable) *Container*: "Limited Quantities"
References:	
Regulatory Standards:	International Maritime Dangerous Goods (IMDG) Codes, Amdt. 28-96. International Air Transportation Association (IATA) (Per International Civil Aviation Organization Technical Instructions) 39th Edition.

15. REGULATORY INFORMATION

SARA Title III Reporting Requirements:

Section 302	No
Section 311	Yes
Section 312	Yes
Section 313	NOT REQUIRED

CERCLA / RCRA Reporting Requirements:

CERCLA:	REQUIRED
RCRA:	REQUIRED
WHMIS:	Yes

Biodegradability:	Not Biodegradable
References:	
Regulatory Standards:	DOT Title 49, Code of Federal Regulations.
	Superfund Amendment Reauthorization Act of 1986, Title III.
Toxic Substance Control Act List (TSCA):	Ingredients listed
Permissible Exposure References:	Registry of Toxic Effects of Chemical Substances National Toxicology Programs (NTP) Report on Carcinogens International Agency for Research on Cancer (IARC) Monographs Occupational Safety & Health Regulations

16. OTHER INFORMATION

Contact: Thomas Cholke **Phone**: (847) 559-2225

This information contained herein is based on data available to us and is believed to be correct. However, we make no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury from the use of the product described herein.

SAFETY DATA SHEET

Revision Date 23-Jun-2015 **Version** 4

1. IDENTIFICATION

Product identifier
Product Name Hi Holdout Mist Wht Primer N/L R/I L/F

Other means of identification
Product Code PL-1530
UN/ID no. UN1263
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Emergency Overview

Danger

Hazard statements
Harmful if inhaled
Causes skin irritation
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Highly flammable liquid and vapor

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ ventilating/ lighting/ equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• May be harmful in contact with skin
• Toxic to aquatic life with long lasting effects
• Toxic to aquatic life
Unknown acute toxicity 7.74% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Xylene	1330-20-7	10 - 30	*
Titanium dioxide	13463-67-7	10 - 30	*
Ethyl Benzene	100-41-4	5 - 10	*
Aromatic 150	64742-94-5	3 - 7	*
Solvent Naphtha, Light Aliphatic	64742-89-8	3 - 7	*

Kaolin	1332-58-7	1 - 5	*
Aliphatic Hydrocarbon	64742-49-0	1 - 5	*
Calcium carbonate	1317-65-3	1 - 5	*
Crystalline Silica	14808-60-7	0.1 - 1	*
Naphthalene	91-20-3	0.1 - 1	*
Zinc oxide, as Zn (fume)	1314-13-2	0.1 - 1	*
Methyl Ethyl Ketoxime	96-29-7	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with plenty of water. Call a physician immediately. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation If breathing is irregular or stopped, administer artificial respiration. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician immediately. Move to fresh air in case of accidental inhalation of vapors.

Ingestion Do NOT induce vomiting. Rinse mouth. If symptoms persist, call a physician. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Call a physician.

Self-protection of the first aider Remove all sources of ignition. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Cover liquid spill with sand, earth or other non-combustible absorbent material. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m³	-
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³

Ethyl Benzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³
Kaolin 1332-58-7	TWA: 2 mg/m³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Calcium carbonate 1317-65-3	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Crystalline Silica 14808-60-7	TWA: 0.025 mg/m³ respirable fraction	(vacated) TWA: 0.1 mg/m³ respirable dust : (30)/(%SiO2 + 2) mg/m³ TWA total dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m³ TWA respirable fraction	IDLH: 50 mg/m³ respirable dust TWA: 0.05 mg/m³ respirable dust
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m³ STEL: 15 ppm STEL: 75 mg/m³
Zinc oxide, as Zn (fume) 1314-13-2	STEL: 10 mg/m³ respirable fraction TWA: 2 mg/m³ respirable fraction	TWA: 5 mg/m³ fume TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ fume (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) STEL: 10 mg/m³ fume	IDLH: 500 mg/m³ Ceiling: 15 mg/m³ dust TWA: 5 mg/m³ dust and fume STEL: 10 mg/m³ fume

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	No information available
Color	No information available	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 110 °C / 230 °F	
Flash point	9 °C / 48 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.17	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	9.77 lbs/gal
Bulk density	No information available
Percent solids by weight	51.3%
Percent volatile by weight	48.7%
Percent solids by volume	33.8%
Actual VOC (lbs/gal)	4.8
Actual VOC (grams/liter)	569.7
EPA VOC (lbs/gal)	4.8
EPA VOC (grams/liter)	569.7
EPA VOC (lb/gal solids)	14.1

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Chlorinated compounds.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylene 1330-20-7	= 3500 mg/kg (Rat)	> 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Ethyl Benzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
Aromatic 150 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m^3 (Rat) 4 h
Solvent Naphtha, Light Aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Aliphatic Hydrocarbon 64742-49-0	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 73680 ppm (Rat) 4 h
Crystalline Silica 14808-60-7	= 500 mg/kg (Rat)	-	-
Naphthalene 91-20-3	= 1110 mg/kg (Rat) = 490 mg/kg (Rat)	= 1120 mg/kg (Rabbit) > 20 g/kg (Rabbit)	> 340 mg/m^3 (Rat) 1 h
Zinc oxide, as Zn (fume) 1314-13-2	> 5000 mg/kg (Rat)	-	-
Methyl Ethyl Ketoxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylene 1330-20-7	-	Group 3	-	-
Titanium dioxide 13463-67-7	-	Group 2B	-	X
Ethyl Benzene 100-41-4	A3	Group 2B	-	X
Crystalline Silica 14808-60-7	A2	Group 1	Known	X
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as a human carcinogen
NTP (National Toxicology Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Ethylbenzene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). Prolonged or repeated overexposure to ethylbenzene may result in adverse effects to the kidneys, liver, respiratory system, thyroid, testicles, and pituitary glands. Avoid repeated exposure.
Target Organ Effects Central nervous system, Eyes, lungs, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

54.79% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Xylene 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Ethyl Benzene 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Lepomis macrochirus mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 9.6: 96 h Poecilia reticulata mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
Aromatic 150 64742-94-5	2.5: 72 h Skeletonema costatum mg/L EC50	19: 96 h Pimephales promelas mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 41: 96 h Pimephales promelas mg/L LC50	0.95: 48 h Daphnia magna mg/L EC50

Solvent Naphtha, Light Aliphatic 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
Aliphatic Hydrocarbon 64742-49-0	-	-	2.6: 96 h Chaetogammarus marinus mg/L LC50
Naphthalene 91-20-3	0.4: 72 h Skeletonema costatum mg/L EC50	5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through 1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 1.99: 96 h Pimephales promelas mg/L LC50 static 31.0265: 96 h Lepomis macrochirus mg/L LC50 static	2.16: 48 h Daphnia magna mg/L LC50 1.96: 48 h Daphnia magna mg/L EC50 Flow through 1.09 - 3.4: 48 h Daphnia magna mg/L EC50 Static
Methyl Ethyl Ketoxime 96-29-7	83: 72 h Desmodesmus subspicatus mg/L EC50	777 - 914: 96 h Pimephales promelas mg/L LC50 flow-through 760: 96 h Poecilia reticulata mg/L LC50 static 320 - 1000: 96 h Leuciscus idus mg/L LC50 static	750: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Xylene 1330-20-7	2.77 - 3.15
Ethyl Benzene 100-41-4	3.118
Aromatic 150 64742-94-5	2.9 - 6.1
Naphthalene 91-20-3	3.3
Methyl Ethyl Ketoxime 96-29-7	0.65

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001 U165 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylene 1330-20-7	-	Included in waste stream: F039	-	U239
Ethyl Benzene 100-41-4	-	Included in waste stream: F039	-	-
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145	-	U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes

Naphthalene 91-20-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Xylene 1330-20-7	Toxic Ignitable
Ethyl Benzene 100-41-4	Toxic Ignitable
Naphthalene 91-20-3	Toxic
Zinc oxide, as Zn (fume) 1314-13-2	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	Class 3, Flammable Liquid
Packing Group	II
Special Provisions	149, B52, IB2, T4, TP1, TP8, TP28
Emergency Response Guide Number	128

TDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II

MEX

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II

ICAO (air)

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Special Provisions	A3, A72

IATA

UN/ID no.	UN1263

Proper shipping name	Paint
Hazard Class	3
Packing Group	II
ERG Code	3L
Special Provisions	A3, A72

IMDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-E
Special Provisions	163
Description	UN1263, Paint, 3, II

RID

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1

ADR

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640C, 650
Labels	3

ADN

Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Special Provisions	163, 640C, 650
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Complies *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Complies *
AICS	Complies *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Xylene - 1330-20-7	1.0
Ethyl Benzene - 100-41-4	0.1
Naphthalene - 91-20-3	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylene 1330-20-7	100 lb	-	-	X
Ethyl Benzene 100-41-4	1000 lb	X	X	X
Naphthalene 91-20-3	100 lb	X	X	X
Zinc oxide, as Zn (fume) 1314-13-2	-	X	-	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylene 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethyl Benzene 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Naphthalene 91-20-3	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Titanium dioxide - 13463-67-7	Carcinogen
Ethyl Benzene - 100-41-4	Carcinogen
Crystalline Silica - 14808-60-7	Carcinogen
Naphthalene - 91-20-3	Carcinogen
Carbon Black - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Xylene 1330-20-7	X	X	X

Titanium dioxide 13463-67-7	X	X	X
Ethyl Benzene 100-41-4	X	X	X
Kaolin 1332-58-7	X	X	X
Calcium carbonate 1317-65-3	X	X	X
Crystalline Silica 14808-60-7	X	X	X
Naphthalene 91-20-3	X	X	X
Cobalt 2-ethylhexanoate 136-52-7	X	-	X
Solvent Naphtha, Medium Aliphatic 64742-88-7	X	-	-
Diethylene Glycol Methyl Ether 111-77-3	X	X	X
Propylene Glycol Methyl Ether 107-98-2	X	X	X
Carbon Black 1333-86-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Chemical Name	Weight % of HAPS in Product	Pounds HAPS / Gal Product
Xylene 1330-20-7	22.43%	2.19
Ethyl Benzene 100-41-4	8.42%	0.82

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2 *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = *Chronic Health Hazard*

Revision Date 23-Jun-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

The Frog, Switch & Manufacturing Co.
600 E. High St., P.O. Box 70
Carlisle, PA 17013

(717) 243-2454

Revised 8/30/89-WJA

I. MATERIAL IDENTIFICATION

MATERIAL NAME: High Chromium Alloy Iron Castings: ACM-X, ACM 27, SMC 57
(See section II for chemical name.)

II. HAZARDOUS INGREDIENTS

	CAS Number	%	OSHA 8-hr TWA	ACGIH 8-hr TWA (1988-89)	ACGIH/OSHA STEL (1988-89)
Iron	(1309-37-1)	> 60	10 mg/m³	5 mg/m³ (as iron oxide fume)	----
*Chromium	(7440-47-3)	< 30	1 mg/m³	.5 mg/m³	----
Carbon	(1333-86-4)	< 4	3.5 mg/m³	3.5 mg/m³ (as carbon black)	----
Molybdenum	(7439-98-7)	< 2	10 mg/m³	10 mg/m³	----

III. PHYSICAL CHARACTERISTICS

Melting Point: 1250 - 1400° C
Specific Gravity (@ 60° F): 7.84
Boiling Point (of iron dust): 3000° C

Vapor Pressure: 1 mm Hg @ 1787° C (of iron dust)
Solubility in water: insoluble

Appearance: dependent upon the processing method used and existing paints or coatings.

IV. PHYSICAL HAZARDS

Flash Point: information not available
Autoignition Temperature (of solid iron in oxygen): 930° C

Flammability Limits: information not available

Solid, massive form of material is not combustible. Fire and explosion hazards are moderate when material is in the form of dust and exposed to heat or flames, chemical reaction, or contact with powerful oxidizers.

Fire Extinguishing Methods: Use special mixtures of dry chemical or sand. Fire fighters should wear self-contained breathing apparatus and protective clothing.

V. CHEMICAL CHARACTERISTICS

Massive material is stable at ordinary temperatures, but dust presents moderate fire and explosion hazards. Material may be incompatible with acids, bases, and oxidizers. Molten metal may react violently with water. For additional information, users should consult applicable references on individual component elements.

VI. EXPOSURE LIMITS

See section II, Hazardous Ingredients.

*See other side.

****** SECTION 1 - Product and Company Identification ******

Manufacturer: E.I. DuPont de Nemours & Co.
Dupont Performance Coatings
Wilmington, DE, 19898

Telephone: Product Information: (800) 441-7515
Medical Emergency: (800) 441-3637
Transportation Emergency: (800) 424-9300 (CHEMTREC)

PRODUCT NAME: HIGH SOLIDS URETHANE THINNER

PRODUCT CODE: 68083 010619

Chemical Family: No Information Available

****** SECTION 2 - Composition, Information on Ingredients ******

CAS #	Ingredient	Concentration/ Range (%)	Exposure Limits**
112-07-2	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	50	A 20.0 ppm D 20.0 ppm 8 & 12 hour TWA O None
100-41-4	ETHYLBENZENE	10.0	A 20.0 ppm O 100.0 ppm D 25.0 ppm 8 & 12 hour TWA
1330-20-7	XYLENE	40	A 150.0 ppm 15 min STEL A 100.0 ppm O 100.0 ppm D 150.0 ppm 15 min STEL D 100.0 ppm 8 & 12 hour TWA

OSHA HAZARDOUS? Yes

** A = ACGIH, O = OSHA, D = Dupont, S = Supplier (For additional definition of terms, see Section 16). Limits are 8-hour TWA unless otherwise specified.

****** SECTION 3 - Hazards Information ******

****** SECTION 3 - Hazards Information ******
Cont'd

Emergency Overview:
DANGER! EXPOSURE MAY CAUSE LUNG INJURY AND ALLERGIC RESPIRATORY REACTION. EFFECTS MAY BE PERMANENT. FLAMMABLE LIQUID AND VAPOR. VAPORS AND SPRAY MIST HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, OR NAUSEA. MAY CAUSE NOSE, THROAT, EYE AND SKIN IRRITATION. CAN BE ABSORBED THROUGH THE SKIN.

Potential Health Effects:
Inhalation:
If this product mixed with an isocyanate activator/hardener (see MSDS for the activator), the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
Ingestion:
May result in gastrointestinal distress.
Skin or eye contact:
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE
May destroy red blood cells.
May cause abnormal kidney function.
May cause temporary upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath.
The following medical conditions may be aggravated by exposure: central nervous system gastrointestinal system kidneys liver dermatitis
Can be absorbed through the skin in harmful amounts.
Overexposure may cause damage to any of the following organs/systems: blood kidneys liver
Ingestion may cause headache, nausea, vomiting, dizziness, and drowsiness.

****** SECTION 3 - Hazards Information ******
Cont'd

ETHYLBENZENE
Is an IARC, NTP or OSHA carcinogen.
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system kidneys liver lungs
Recurrent overexposure may result in liver and kidney injury.
Studies in laboratory animals have shown reproductive, embryotoxic and developmental effects.
WARNING: This chemical is known to the State of California to cause cancer.

XYLENE
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: bone marrow cardiovascular system central nervous system kidneys liver lungs
Recurrent overexposure may result in liver and kidney injury.
High exposures may produce irregular heart beats.
Canada classifies Xylene as a developmental toxin as high exposures to xylenes in some animal studies have been reported to cause health effects on the developing fetus/embryo. These effects were often at levels toxic to the adult animal. The significance of these effects to humans is not known.
Repeated or prolonged skin contact may cause any of the following: irritation dryness cracking of the skin

NOTE:
If a chemical listed above is not identified as a carcinogen it is not an "IARC, NTP, or OSHA carcinogen".

****** SECTION 4 - First Aid Measures ******

First Aid Procedures:
Inhalation:
If affected by inhalation of vapor or spray mist, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.
Ingestion:
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.
Skin or eye:
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash thoroughly with soap and water. If irritation occurs, contact a physician.

****** SECTION 5 - Firefighting Measures ******

****** SECTION 5 - Firefighting Measures ******
Cont'd

Flash Point (Method) 73 deg F to below 100 deg F Closed Cup
Approx. flammable limits LFL 0.5 % UFL 8.8 %
Auto ignition temperature 340.0 - 432.0 Deg C
Hazardous Combustion Products:
CO, C02, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.
Extinguishing media:
Universal aqueous film-forming foam, carbon dioxide, dry chemical.
Special fire fighting procedures:
Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.
Fire & explosion hazards:
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

****** SECTION 6 - Accidental Release Measures ******

Procedures for cleaning up spills or leaks:
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor.

If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0 -10% Ammonia, 2-5% Detergent and Water (balance) Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly.

****** SECTION 7 - Handling and Storage ******

Precautions to be taken in handling and storing:
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 120 deg F.
OSHA/NFPA Storage Classification: IC
Other precautions:
If material is a coating: do not sand, flame cut, braze or weld dry

****** SECTION 7 - Handling and Storage ******
Cont'd

coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation , and gloves.

****** SECTION 8 - Exposure Controls or Personal Protection ******

Engineering controls and work practices:
Ventilation:
Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Personal Protective Equipment:
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.
Respiratory:
Do not breathe vapors or mists. When used with paints requiring isocyanate activators /hardeners, wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C) during the spray application (or brush or roll application in poorly ventilated areas) of this product and until all vapors and spray mist are exhausted. For mixing and for brush and roll application in well ventilated areas or if the product is used without isocyanate activators/hardeners, a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) may be used. Follow respirator manufacturer s directions for respirator use. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist if mixed with isocyanate activators/hardeners. Do not permit anyone without protection in the painting area.
Protective clothing:
Neoprene gloves and coveralls are recommended.
Eye protection:
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

****** SECTION 9 - Physical and Chemical Properties ******

Evaporation Rate	Slower than Ether
Vapor Pressure of principal solvent	0.39 mbar @ 20 Deg C
Solubility of solvent in water	NIL
Vapor density of principal solvent (Air = 1)	5.50
Approx. Boiling range	135 - 195 DEG (C)
Approx. Freezing range	-82 - -64 DEG (C)
Gallon weight (lbs/gal)	7.53
Specific gravity	0.90
Percent volatile by volume	100.00
Percent volatile by weight	100.00
Percent solids by volume	0.00
Percent solids by weight	0.00

****** SECTION 9 - Physical and Chemical Properties ******
Cont'd

Odor	Characteristic Solvent Odor
Appearance	Liquid Thinner
Physical state	Liquid
pH (waterborne systems only)	Not Applicable
VOC* less exempt (lbs/gal)	7.5
VOC* as packaged (lbs/gal)	7.5

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.

****** SECTION 10 - Stability and Reactivity ******

Stability:
Stable
Incompatibility (materials to avoid):
None reasonably foreseeable
Hazardous decomposition products:
CO, C02, smoke, and oxides of any heavy metals that are reported in "Composition, Information on Ingredients" section.
Hazardous polymerization:
Will not occur.
Sensitivity to static discharge:
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.
Sensitivity to mechanical impact: None Known

****** SECTION 11 - Toxicological Information ******

No Information Available

****** SECTION 12 - Ecological Information ******

No Information Available

****** SECTION 13 - Disposal Considerations ******

Waste disposal method:
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

****** SECTION 14 - Transportation Information ******

No Information Available

****** SECTION 15 - Regulatory Information ******

TSCA Status:
In compliance with TSCA Inventory requirements for commercial purposes.
DSL Status:
All components of the mixture are listed on the DSL.

Photochemical Reactivity: Photochemically reactive

Other Regulatory Information:

CAS #	Ingredient	302	TPQ/RQ	EPCRA 311/312	313	CERCLA RQ(lbs)	HAP
112-07-2	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	N	NR	A,C,F	Y	NR	Y
100-41-4	ETHYLBENZENE	N	NR	A,C,F	Y	1000	Y
1330-20-7	XYLENE	N	NR	A,C,F	Y	100	Y

Key:
EPCRA: Emergency Planning and Community Right-to-Know Act (aka Title III, SARA)
302: Extremely hazardous substances
311/312 Categories: F = Fire Hazard A = Acute Hazard
R = Reactivity Hazard C = Chronic Hazard
P = Pressure Related Hazard
313 Information: Section 313 Supplier Notification - The chemicals listed above with a 'Y' in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act of 1980.
HAP = Listed as a Clean Air Act Hazardous Air Pollutant
TPQ = Threshold planning quantity
RQ = Reportable quantity
NA = not available
NR = not regulated

****** SECTION 16 - Additional Information ******

HMIS Rating: H: 2 F: 3 R: 0
NFPA Rating: H: F: R:

Glossary of Terms:
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
STEL - Short term exposure limit
TWA - Time-weighted average
PNOR - Particles not otherwise regulated
PNOC - Particles not otherwise classified

****** SECTION 16 - Additional Information ******
Cont'd

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

MSDS prepared by:
Performance Coatings Regulatory Affairs Consultant.

LOCTITE CORPORATION 10/20/98
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 05

High Tack(TM) Gasket Sealant
80062

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Item No.: 80062
Part No.: 98H
Product Type: Adhesive/Sealant

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ACETONE	67-64-1	35-40
Rosin ester	Proprietary	25-30
n-HEXANE*	110-54-3	15-20
Rosin	8050-09-7	10-15
Synthetic rubber	9003-18-3	5-10
Xanthylium,9-(2-carboxyphenyl) -3,6-bis(diethylamino)-chlorid*	81-88-9	0.1-1

* This component is listed as a SARA Section 313 Toxic Chemical.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ACETONE	500 ppm TWA 1188 mg/m3	750 ppm TWA 1800 mg/m3	None
n-HEXANE	50 ppm TWA	50 ppm TWA 180mg/M3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETONE	750 ppm 1782 mg/m3	1000 ppm 2400 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Eye, skin, and respiratory irritant.
Primary Routes of Entry: Inhalation, ingestion, contact.
Signs and Symptoms of Exposure: Headache, nausea, dizziness, irritation of mucous membranes. Vapor irritates eyes, nose and throat. Liquid may cause eye injury and is irritating to the skin. May cause sensitization.
Existing Conditions Aggravated by Exposure: None known

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3. HAZARDS IDENTIFICATION (continued)

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ACETONE	AC4 BLO CNS IRR	NO	NO	NO
Rosin ester	No Data	NO	NO	NO
n-HEXANE	DEV IRR NER REP	NO	NO	NO
Rosin	ACS ALG IRR RES	NO	NO	NO
Synthetic rubber	No Data	NO	NO	NO
Xanthylium,9-(2-carboxyphenyl) -3,6-bis(diethylamino)-chlorid	No Data	NO	N/A	NO

Abbreviations

N/A Not Applicable	ACS ACGIH sensitizer
AC4 ACGIH-Unclassifiable as human carc.	ALG Allergen
BLO Blood	CNS Central nervous system
DEV Developmental	IRR Irritant
NER Nervous System	REP Reproductive
RES Respiratory	

4. FIRST AID MEASURES

Ingestion:	Keep calm. Obtain medical attention Do not induce vomiting.
Inhalation:	Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact:	Wash with soap and water.
Eye Contact:	Flush with water at least 15 minutes. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	Approximately 0°F Method: TCC
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Irritating organic vapors
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	2%
(% by volume in air)Upper	13%

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6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case

of spill or leak:	Avoid all sources of ignition. Maintain adequate ventilation. Soak up in an inert absorbent and store in a closed container until disposal.

7. HANDLING AND STORAGE

Safe Storage:	Store away from heat or flame.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid prolonged breathing of fumes. Keep away from eyes. Avoid prolonged skin contact. Do not use near heat or flame.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Must be adequate to avoid exceeding TLV.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red, tacky liquid
Odor:	Acetone
Boiling Point:	Approximately 135°F
pH:	Does not apply
Solubility in Water:	Partial
Specific Gravity	0.872
Volatile Organic Compound (EPA Method 24)	55.3%
Vapor Pressure:	400 mm at 100°F
Vapor Density:	2.5
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizers.
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

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11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	D001 - Hazardous waste per 40CFR 261.21

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)	
Domestic Ground Transport	
Proper Shipping Name:	Consumer Commodity (Not more than one liter); Adhesives (More than one liter)
Hazard Class or Division:	ORM-D (Not more than one liter); Class 3, Packing Group II (More than one liter)
Identification Number:	None (Not more than one liter); UN 1133 (More than one liter)
Marine Pollutant:	None
IATA	
Proper Shipping Name:	Adhesives
Class or Division:	Class 3, Packing Group II
UN or ID Number:	UN 1133

15. REGULATORY INFORMATION

CA Proposition 65:	Warning: This product contains a chemical known to the State of California to cause cancer.

16. OTHER INFORMATION

Estimated NFPA(R) Code:	
Health Hazard:	3
Fire Hazard:	3
Reactivity Hazard:	0
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:	
Health Hazard:	3
Flammability Hazard:	3
Reactivity Hazards:	0
Personal Protection:	See Section 8.

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16. OTHER INFORMATION (continued)

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By:	Stephen Repetto
Title:	Research Chemist- Safety,Health&Regulatory Affairs
Company:	Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone:	(860) 571-5100
Revision Date:	August 20, 1998 Revision: 0028

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SAFETY DATA SHEET

Revision Date 11-Feb-2016 **Version** 5

1. IDENTIFICATION

Product identifier

Product Name HIGH TEMPERATURE THREAD SEALANT 6ML

Other means of identification

Product Code 59214
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Sealant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

NOTE: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Warning

Causes skin irritation
Causes serious eye irritation
May cause damage to organs through prolonged or repeated exposure

Appearance White **Physical state** Paste **Odor** Mild

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Harmful to aquatic life with long lasting effects
- Carcinogenic effects: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
POLYGLYCOL DIMETHACRYLATE	25852-47-5	10 - 30	*
DIMETHYLBENZYL HYDROPEROXIDE	80-15-9	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician.

Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents, Amines

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .
NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Paste
Appearance	White
Odor	Mild
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 149 °C / >300 °F	
Flash point	> 93 °C / > 200 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.16-1.26	

Water solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<3%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Amines

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.

Eye contact May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	= 382 mg/kg (Rat)	= 0.126 mL/kg (Rabbit)	= 220 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects Lungs, Respiratory system.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 15776 mg/kg
ATEmix (dermal) 28813 mg/kg
ATEmix (inhalation-dust/mist) 50.1 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

9.881 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	-	3.9: 96 h Oncorhynchus mykiss mg/L LC50 static	7: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	-	-	-	U096

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated

IATA
Proper shipping name: Not regulated

IMDG
Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Not determined
ENCS	Not determined
IECSC	Complies
KECL	Complies
PICCS	Not determined
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
DIMETHYLBENZYL HYDROPEROXIDE - 80-15-9	1.0
SACCHARIN - 81-07-2	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
TITANIUM DIOXIDE - 13463-67-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
SILICA, MICA 12001-26-2	X	X	X
TITANIUM DIOXIDE 13463-67-7	X	X	X
PROPYLENE GLYCOL 57-55-6	X	-	X
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	X	X	X
SACCHARIN 81-07-2	X	X	X
WATER 7732-18-5	-	-	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 11-Feb-2016

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 03-Feb-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name HIGH TEMPERATURE THREAD SEALANT 6ML

Other means of identification
Product Code 59214
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Sealant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839
24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Warning

Causes skin irritation
Causes serious eye irritation
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure

Appearance White **Physical state** Paste **Odor** Mild

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Not applicable.

Unknown acute toxicity 73.871% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%	Trade Secret
POLYGLYCOL DIMETHACRYLATE	25852-47-5	10 - 30	*
SILICA, MICA	12001-26-2	10 - 30	*
POLYETHYLENE GLYCOL ESTER	18268-70-7	5 - 10	*
OCTANOL	111-87-5	5 - 10	*
POLYTETRAFLUOROETHYLENE	9002-84-0	3 - 7	*
TITANIUM DIOXIDE	13463-67-7	1 - 5	*
PROPYLENE GLYCOL	57-55-6	1 - 5	*
SACCHARIN	81-07-2	1 - 5	*
DIMETHYLBENZYL HYDROPEROXIDE	80-15-9	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Get medical advice/attention if you feel unwell.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	IF ON SKIN:. Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions	Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents. Amines.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
SILICA, MICA 12001-26-2	TWA: 3 mg/m³ respirable fraction	(vacated) TWA: 3 mg/m³ respirable dust <1% Crystalline silica TWA: 20 mppcf <1% Crystalline silica	IDLH: 1500 mg/m³ TWA: 3 mg/m³ containing <1% Quartz respirable dust
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Paste
Appearance White

Odor	Mild
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	Does not apply	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 149 °C / 300 °F	
Flash point	> 93 °C / > 199 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	n/d	
Vapor density	>1	Air = 1
Relative density	1.16-1.26	
Water solubility	Insoluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	2.8%; 33.9 g/L
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Amines

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May be harmful if inhaled.

Eye contact May cause redness and tearing of the eyes.

Skin contact May cause skin irritation and/or dermatitis.

Ingestion Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
POLYETHYLENE GLYCOL ESTER 18268-70-7	= 18 g/kg (Rat)	> 20 mL/kg (Rabbit)	-
OCTANOL 111-87-5	> 3200 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
TITANIUM DIOXIDE 13463-67-7	> 10000 mg/kg (Rat)	-	-
PROPYLENE GLYCOL 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	= 382 mg/kg (Rat)	= 0.126 mL/kg (Rabbit)	= 220 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Serious eye damage/eye irritation Risk of serious damage to eyes.
Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
POLYTETRAFLUOROETHYLENE 9002-84-0	-	Group 3	-	-
TITANIUM DIOXIDE 13463-67-7	-	Group 2B	-	X
SACCHARIN 81-07-2	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects Lungs, Respiratory system.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 3936 mg/kg
ATEmix (dermal) 7529 mg/kg
ATEmix (inhalation-dust/mist) 13.1 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

None known
85.671% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
OCTANOL 111-87-5	14: 48 h Desmodesmus subspicatus mg/L EC50 static	11.4 - 12.9: 96 h Pimephales promelas mg/L LC50 flow-through 17.68: 96 h Oncorhynchus mykiss mg/L LC50 static	15 - 26: 24 h Daphnia magna mg/L EC50

PROPYLENE GLYCOL 57-55-6	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50	1000: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna mg/L EC50
SACCHARIN 81-07-2	-	18300: 96 h Pimephales promelas mg/L LC50	-
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	-	3.9: 96 h Oncorhynchus mykiss mg/L LC50 static	7: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
OCTANOL 111-87-5	3.15

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number Not applicable

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	-	-	-	U096

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT
Proper shipping name Not regulated

TDG
Proper shipping name Not regulated

ICAO (air)

Proper shipping name Not regulated

IATA

Proper shipping name Not regulated

IMDG

Proper shipping name Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Does not comply
DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Does not comply
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
DIMETHYLBENZYL HYDROPEROXIDE - 80-15-9	1.0
SACCHARIN - 81-07-2	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
TITANIUM DIOXIDE - 13463-67-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
SILICA, MICA 12001-26-2	X	X	X
TITANIUM DIOXIDE 13463-67-7	X	X	X
PROPYLENE GLYCOL 57-55-6	X	-	X
DIMETHYLBENZYL HYDROPEROXIDE 80-15-9	X	X	X
SACCHARIN 81-07-2	X	X	X
WATER 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

NFPA	**Health hazards** 2	**Flammability** 1	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 1	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 03-Feb-2015

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: HPERF LSPR 6PK MARK CAUTION BLUE

Revision Date: 9/5/2014

Product Identifier: V2324838

Supercedes Date: New SDS

Product Use/Class: Inverted Marking Paint/Aerosol

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if swallowed. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN. Harmful if inhaled. Causes eye irritation. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation.

Classification

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Flammable Liquid, category 1	H224	Extremely flammable liquid and vapour.
Acute Toxicity, Oral, category 5	H303	May be harmful if swallowed.
Acute Toxicity, Dermal, category 5	H313	May be harmful in contact with skin.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Aspiration Hazard, category 2	H305	May be harmful if swallowed and enters airways.
Eye Irritation, category 2B	H320	Causes eye irritation.
Flammable Aerosol, category 1	H280	Contains gas under pressure; may explode if heated

GHS PRECAUTIONARY STATEMENTS

P211	Do not spray on an open flame or other ignition source.
P220	Keep/Store away from clothing/…/combustible materials.

P235	Keep cool.
P251	Pressurized container: Do not pierce or burn, even after use.
P375	Fight fire remotely due to the risk of explosion.
P102	Keep out of reach of children.
P103	Read label before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P351	Rinse cautiously with water for several minutes.
P374	Fight fire with normal precautions from a reasonable distance.
P402	Store in a dry place.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/…/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378	In case of fire: Use … for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to …
P321	Specific treatment (see … on this label).
P352	Wash with plenty of soap and water.
P362	Take off contaminated clothing and wash before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Liquefied Petroleum Gas	68476-86-8	10-25		
Acetone	67-64-1	10-25	GHS02	H225
Aliphatic Hydrocarbon	64742-89-8	10-25		
Limestone	1317-65-3	2.5-10		
Xylene	1330-20-7	2.5-10	GHS02	H226
Titanium Dioxide	1317-80-2	2.5-10		
Talc	14807-96-6	2.5-10		
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	2.5-10		

Titanium Dioxide	13463-67-7	1.0-2.5		
Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07	H225-332

The text for GHS Hazard Statements shown above (if any) is given in the "16. Other Information" section.

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Liquefied Petroleum Gas	68476-86-8	30.0	N.E.	N.E.	N.E.	N.E.
Acetone	67-64-1	25.0	500 ppm	750 ppm	1000 ppm	N.E.
Aliphatic Hydrocarbon	64742-89-8	15.0	100 ppm	N.E.	100 ppm	N.E.
Limestone	1317-65-3	10.0	5 mg/m3 (NIOSH, Respirable Dust)	N.E.	15 mg/m3 [Total Dust]	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Titanium Dioxide	1317-80-2	5.0	10 mg/m3	N.E.	15 mg/m3 (Total Dust)	N.E.

Talc	14807-96-6	5.0	2 mg/m3	N.E.	0.1 mg/m3 [Respirable]	N.E.
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	5.0	200 mg/m3	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	5.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	125 ppm	100 ppm	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.812	**pH:**	N.D.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	No Information
Decompostion Temp., °C:	No Information		
Boiling Range, °C:	-34 - 415	**Explosive Limits, vol%:**	0.7 - 13.0
Flammability:	Does not Support Combustion	**Flash Point, °C:**	-104
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	No Information
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition. Avoid contact with strong acid and strong bases.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if

swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-89-8	Aliphatic Hydrocarbon	N.I.	3000 mg/kg Rabbit	N.I.
1330-20-7	Xylene	4300 mg/kg Rat	N.I.	47635 mg/L Rat
64742-49-0	Naphtha, Petroleum, Hydrotreated Light	>5000 mg/kg Rat	>3160 mg/kg Rabbit	N.I.
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	N.I.	N.I.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

Inventory Information

Country	Value
USA (TSCA)	No Information
Canada (DSL)	No Information
Mexico(INSQ)	No Information
Europe (EINECS)	No Information
Japan (ENCS)	No Information
Philippines (PICCS)	No Information
China (IECSC)	No Information
Australia (AICS)	No Information
Korea (KECI)	No Information
New Zealand (NZIOC)	No Information

No Information

CALIFORNIA PROPOSITION 65:

Warning: This products contains a substance known to the State of California to cause cancer.

Chemical Name	CAS-No.
Titanium Dioxide	1317-80-2
Titanium Dioxide	13463-67-7
Ethylbenzene	100-41-4

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

CANADIAN WHMIS CLASS: AB5 D2A

NFPA RATINGS

Health:	2	**Flammability:**	4	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 543

MSDS REVISION DATE: 9/5/2014

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: HPERF LSPR 6PK MARK CAUTION YELLOW

Revision Date: 9/5/2014

Product Identifier: V2345838

Supercedes Date: New SDS

Product Use/Class: Inverted Marking Paint/Aerosol

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if swallowed. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN. Harmful if inhaled. Causes eye irritation. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation.

Classification

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Flammable Liquid, category 1	H224	Extremely flammable liquid and vapour.
Acute Toxicity, Oral, category 5	H303	May be harmful if swallowed.
Acute Toxicity, Dermal, category 5	H313	May be harmful in contact with skin.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Aspiration Hazard, category 2	H305	May be harmful if swallowed and enters airways.
Eye Irritation, category 2B	H320	Causes eye irritation.
Flammable Aerosol, category 1	H280	Contains gas under pressure; may explode if heated

GHS PRECAUTIONARY STATEMENTS

P211	Do not spray on an open flame or other ignition source.
P220	Keep/Store away from clothing/.../combustible materials.

P235	Keep cool.
P251	Pressurized container: Do not pierce or burn, even after use.
P375	Fight fire remotely due to the risk of explosion.
P102	Keep out of reach of children.
P103	Read label before use.
P202	Do not handle until all safety precautions have been read and understood.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P351	Rinse cautiously with water for several minutes.
P374	Fight fire with normal precautions from a reasonable distance.
P402	Store in a dry place.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/…/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378	In case of fire: Use … for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to …
P321	Specific treatment (see … on this label).
P352	Wash with plenty of soap and water.
P362	Take off contaminated clothing and wash before reuse.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Acetone	67-64-1	25-50	GHS02	H225
Liquefied Petroleum Gas	68476-86-8	10-25		
Aliphatic Hydrocarbon	64742-89-8	10-25		
Limestone	1317-65-3	2.5-10		
Xylene	1330-20-7	2.5-10	GHS02	H226
Titanium Dioxide	13463-67-7	2.5-10		
Talc	14807-96-6	2.5-10		
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	2.5-10		

Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07	H225-332
Yellow Iron Oxide	51274-00-1	1.0-2.5		

The text for GHS Hazard Statements shown above (if any) is given in the "16. Other Information" section.

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Acetone	67-64-1	30.0	500 ppm	750 ppm	1000 ppm	N.E.
Liquefied Petroleum Gas	68476-86-8	30.0	N.E.	N.E.	N.E.	N.E.
Aliphatic Hydrocarbon	64742-89-8	15.0	100 ppm	N.E.	100 ppm	N.E.
Limestone	1317-65-3	10.0	5 mg/m3 (NIOSH, Respirable Dust)	N.E.	15 mg/m3 [Total Dust]	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Titanium Dioxide	13463-67-7	5.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.

Talc	14807-96-6	5.0	2 mg/m3	N.E.	0.1 mg/m3 [Respirable]	N.E.
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	5.0	200 mg/m3	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	125 ppm	100 ppm	N.E.
Yellow Iron Oxide	51274-00-1	5.0	5 mg/m3	N.E.	10 mg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.803	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	No Information
Decompostion Temp., °C:	No Information		
Boiling Range, °C:	-34 - 500	**Explosive Limits, vol%:**	0.7 - 13.0
Flammability:	Supports Combustion	**Flash Point, °C:**	-105
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	No Information
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition. Avoid contact with strong acid and strong bases.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-89-8	Aliphatic Hydrocarbon	N.I.	3000 mg/kg Rabbit	N.I.
1330-20-7	Xylene	4300 mg/kg Rat	N.I.	47635 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	N.I.	N.I.
64742-49-0	Naphtha, Petroleum, Hydrotreated Light	>5000 mg/kg Rat	>3160 mg/kg Rabbit	N.I.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene	1330-20-7

Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

Inventory Information

Country	Value
USA (TSCA)	No Information
Canada (DSL)	No Information
Mexico(INSQ)	No Information
Europe (EINECS)	No Information
Japan (ENCS)	No Information
Philippines (PICCS)	No Information
China (IECSC)	No Information
Australia (AICS)	No Information
Korea (KECI)	No Information
New Zealand (NZIOC)	No Information

No Information

CALIFORNIA PROPOSITION 65:

Warning: This products contains a substance known to the State of California to cause cancer.

Chemical Name	CAS-No.
Titanium Dioxide	13463-67-7
Ethylbenzene	100-41-4

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

CANADIAN WHMIS CLASS: B2 D2A

NFPA RATINGS

Health:	2	**Flammability:**	4	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 535

MSDS REVISION DATE: 9/5/2014

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

1. Identification of the substance/mixture and of the company/undertaking

Manufacturer: DuPont Performance Coatings LLC
1007 Market Street, D-13111
Wilmington, DE 19898

Telephone: Product information: (800) 441-7515
Medical emergency: (800) 441-3637
Transportation emergency: (800) 424-9300 (CHEMTREC)

Product: **Imron® Activators and Additives**

DOT Shipping Name: See DOT Addendum.

Hazardous Materials Information: See Section 10.

2. Composition/information on ingredients

INGREDIENTS	CAS #	VAPOR PRESSURE	EXPOSURE LIMITS
1,2,4-trimethyl benzene	95-63-6	7.0@44.4 °C	A 25.0 ppm, O 25.0 ppm
1,3-propanediol, homo polymer	345260-48-2	None	A None, O None
1,6-hexamethylene diisocyanate	822-06-0	0.0@25.0 °C	A 5.0 ppb, O None
2,4-pentanedione	123-54-6	9.0	A 25.0 ppm Skin, D 5.0 ppm 8 & 12 hour TWA, O None
2-ethylhexyl acetate	103-09-3	0.5	A None, O None
4-chlorobenzotrifluoride	98-56-6	7.6@25.0 °C	D 20.0 ppm 8 & 12 hour TWA, A None, O None
Acetone	67-64-1	247.0@68.0 °F	A 750.0 ppm 15 min STEL, A 500.0 ppm, O 1000.0 ppm, D 500.0 ppm 8 & 12 hour TWA
Acrylic polymer	NotAvail	None	A None, O None
Aliphatic polyisocyanate resin	28182-81-2	None	S 0.5 mg/m3, A None, O None
Alkyd resin	NotAvail	None	A None, O None
Aluminum hydroxide	21645-51-2	None	A 1.0 mg/m3, O None
Amorphous silica	7631-86-9	None	A 3.0 mg/m3 Respirable Dust, O 20.0 mppcf, D 3.0 mg/m3, D 6.0 mg/m3
Aromatic hydrocarbon	64742-95-6	10.0@25.0 °C	D 50.0 ppm, A None, O None
Butyl acetate	123-86-4	10.0	A 200.0 ppm 15 min STEL, A 150.0 ppm, O 150.0 ppm
C.i. pigment red 254	84632-65-5	None	A None, O None
C.i. pigment yellow 154	68134-22-5	None	A None, O None
Carbon black	1333-86-4	None	A 3.0 mg/m3, O 3.5 mg/m3, D 0.5 mg/m3 8 & 12 hour TWA
Dibutyl tin dilaurate	77-58-7	<10.0	A 0.2 mg/m3 15 min STEL Sn, A 0.1 mg/m3 Sn, O 0.1 mg/m3 Sn
Ethyl acetate	141-78-6	100.0	A 400.0 ppm, O 400.0 ppm
Ethylbenzene	100-41-4	7.0	A 20.0 ppm, O 100.0 ppm, D 25.0 ppm 8 & 12 hour TWA
Ethylene glycol monobutyl ether acetate	112-07-2	0.3	A 20.0 ppm, D 20.0 ppm 8 & 12 hour TWA , O None
Iron hydroxide	20344-49-4	None	A None, O None
Iron oxide	1309-37-1	None	A 5.0 mg/m3 Respirable Dust, O 10.0 mg/m3, D 3.0 mg/m3
Isoindolinone pigment	36888-99-0	None	A None, O None
Limestone (calcium carbonate)	1317-65-3	None	A 10.0 mg/m3, O 15.0 mg/m3 Total Dust, O 5.0 mg/m3 Respirable Dust
Methyl acetate	79-20-9	171.3@68.0 °F	A 250.0 ppm 15 min STEL, A 200.0 ppm, O 200.0 ppm
Methyl amyl ketone	110-43-0	3.4	A 50.0 ppm, O 100.0 ppm
Methyl isobutyl ketone	108-10-1	15.1	A 75.0 ppm 15 min STEL Skin, A 20.0 ppm , O 100.0 ppm Skin
Monoazo pigment	12236-62-3	None	A 10.0 mg/m3 inhalable dust particulate, O 15.0 mg/m3 Total Dust, O 5.0 mg/m3 Respirable Dust
Organotin compound	NotAvail	None	A 0.1 mg/m3 Skin Sn, O 0.1 mg/m3 Skin Sn
Phthalocyanine blue pigment	147-14-8	None	A 10.0 mg/m3 inhalable dust PNOC, A 3.0 mg/m3 respirable particulate PNOC, O 15.0 mg/m3 Total Dust PNOR, O 5.0 mg/m3 TWA Respirable Dust PNOR
Phthalocyanine green	1328-53-6	None	A 3.0 mg/m3 TWA Respirable Dust, A 10.0 mg/m3 TWA inhalable dust, O 15.0 mg/m3 TWA Total Dust, O 5.0 mg/m3 TWA Respirable Dust
Polyester resin	129922-22-1	None	A None, O None
Polyisocyanate	28182-81-2	None	A None, O None
Polyisocyanate based on hdi	NotAvail	None	A None, O None
Propylene glycol monomethyl ether acetate	108-65-6	3.8	D 30.0 ppm 15 min TWA, A None, O None

INGREDIENTS	CAS #	VAPOR PRESSURE	EXPOSURE LIMITS
Quinacridone pigment	1047-16-1	None	A 10.0 mg/m3 inhalable dust, A 3.0 mg/m3, O 15.0 mg/m3 Total Dust PNOR, O 5.0 mg/m3 Respirable Dust, D 10.0 mg/m3 Total Dust
Reactive diluent e	NotAvail	None	A None, O None
Silicone resin	9016-00-6	7.0	A None, O None
T-butyl acetate	540-88-5	None	A 200.0 ppm, O 200.0 ppm
Titanium dioxide	13463-67-7	None	O 15.0 mg/m3 Total Dust, D 10.0 mg/m3 8 & 12 hour TWA Total Dust, D 5.0 mg/m3 8 & 12 hour TWA Respirable Dust, A None
Xylene	1330-20-7	8.0@25.0 °C	A 150.0 ppm 15 min STEL, A 100.0 ppm, O 100.0 ppm, D 150.0 ppm 15 min STEL, D 100.0 ppm 8 & 12 hour TWA

***A=ACGIH, O=OSHA, D=DuPont, S=Suppliers. Limits are 8 hour TWA unless otherwise specified. Vapor pressure @ 20° C unless otherwise noted.**

3. Hazards identification

Potential Health Effects:

Inhalation:

May cause nose and throat irritation. May cause nervous system depression, characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. If this product contains or is mixed with an isocyanate activator/hardener, the following health effects may apply: Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion:

May result in gastrointestinal distress.

Skin or eye contact:

May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Other Potential Health Effects in addition to those listed above:

1,6-hexamethylene diisocyanate

Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough, which may be permanent; or permanent lung sensitization. This effect may be delayed for several hours after exposure. The following medical conditions may be aggravated by exposure: asthma, skin disorders, respiratory disorders. Overexposure may cause damage to any of the following organs/systems: lungs, skin. Potential skin sensitizer that may cause allergic reactions and contact dermatitis resulting in severe irritation, dryness, and cracking of the skin.

2,4-pentanedione

2,4-pentanedione, a component of this product, is regulated by the U.S. EPA, under a significant new use rule. It is a violation of federal law to sell or use this product in consumer applications, including to private individuals, schools, and vocational schools. Can be absorbed through the skin in harmful amounts. Repeated exposures to high concentrations has caused adverse health effects in laboratory animals. These effects involved the central nervous system, immune system, and the red blood cell forming system. No effect was seen at 100 ppm. The odor is disagreeable at a few ppm. Repeated or prolonged skin contact may cause any of the following: skin sensitization. Skin or eye contact may cause any of the following: irritation. Overexposure of this substance may cause effects on any of the following organs/systems: central nervous system, lungs, upper respiratory system, thymus.

4-chlorobenzotrifluoride

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: skin. Prolonged or repeated exposure may cause damage to any of the following organs/systems: kidneys, liver, thyroid. Potential skin sensitizer that may cause allergic reactions and contact dermatitis resulting in severe irritation, dryness, and cracking of the skin. Ingestion may cause any of the following: gastrointestinal irritation. Eye contact may cause any of the following: permanent eye injury. Inhalation may cause any of the following: stupor (central nervous system depression), respiratory tract irritation.

Acetone

The following medical conditions may be aggravated by exposure: lung disease, eye disorders, skin disorders. Overexposure may cause damage to any of the following organs/systems: blood, central nervous system, eyes, kidneys, liver, respiratory system, skin.

Aliphatic polyisocyanate resin

Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough, which may be permanent; or permanent lung sensitization. This effect may be delayed for several hours after exposure. The following medical conditions may be aggravated by exposure: asthma, skin disorders, respiratory disorders. Potential skin sensitizer that may cause allergic reactions and contact dermatitis resulting in severe irritation, dryness, and cracking of the skin.

Aromatic hydrocarbon

The following medical conditions may be aggravated by exposure: skin disorders. Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors.

Butyl acetate

May cause abnormal liver function. The following medical conditions may be aggravated by exposure: respiratory system. Tests for embryotoxic activity in animals has been inconclusive. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

C.i. pigment yellow 154
Inhalation may cause any of the following: respiratory tract irritation. Skin or eye contact may cause any of the following: irritation.

Carbon black
Is an IARC, NTP or OSHA carcinogen. Has shown carcinogenic activity in laboratory animals at high doses. Significance to man is unknown. The following medical conditions may be aggravated by exposure: asthma, respiratory disease. WARNING: This chemical is known to the State of California to cause cancer.

Ethyl acetate
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: eyes, respiratory system, skin. Tests in laboratory animals have shown effects on any of the following organs/systems: blood, kidneys, liver.

Ethylbenzene
Is an IARC, NTP or OSHA carcinogen. Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, lungs. Recurrent overexposure may result in liver and kidney injury. Studies in laboratory animals have shown reproductive, embryotoxic and developmental effects. WARNING: This chemical is known to the State of California to cause cancer.

Ethylene glycol monobutyl ether acetate
May destroy red blood cells. May cause abnormal kidney function. May cause temporary upper respiratory and/or lung irritation with cough, difficult breathing, or shortness of breath. The following medical conditions may be aggravated by exposure: central nervous system, gastrointestinal system, kidneys, liver, dermatitis. Can be absorbed through the skin in harmful amounts. Overexposure may cause damage to any of the following organs/systems: blood, kidneys, liver. Ingestion may cause headache, nausea, vomiting, dizziness, and drowsiness.

Methyl isobutyl ketone
WARNING: This chemical is known to the State of California to cause cancer.

Polyisocyanate
Overexposure may cause asthma-like reactions with shortness of breath, wheezing, cough, which may be permanent; or permanent lung sensitization. This effect may be delayed for several hours after exposure. The following medical conditions may be aggravated by exposure: asthma, skin disorders, respiratory disorders. Potential skin sensitizer that may cause allergic reactions and contact dermatitis resulting in severe irritation, dryness, and cracking of the skin.

Propylene glycol monomethyl ether acetate
Recurrent overexposure may result in liver and kidney injury.

T-butyl acetate
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, eyes, gastrointestinal system, liver, skin.

Titanium dioxide
Is an IARC, NTP or OSHA carcinogen. In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m3 respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m3 level are not relevant to the workplace.'Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.'

Xylene
Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: bone marrow, cardiovascular system, central nervous system, kidneys, liver, lungs. Recurrent overexposure may result in liver and kidney injury. High exposures may produce irregular heart beats. Canada classifies Xylene as a developmental toxin as high exposures to xylenes in some animal studies have been reported to cause health effects on the developing fetus/embryo. These effects were often at levels toxic to the adult animal. The significance of these effects to humans is not known. Repeated or prolonged skin contact may cause any of the following: irritation, dryness, cracking of the skin.

4. First aid measures

First Aid Procedures:

Inhalation:
If affected by inhalation of vapor or spray mist, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Ingestion:
In the unlikely event of ingestion, DO NOT INDUCE VOMITING. Call a physician immediately and have names of ingredients available.

Skin or eye contact:
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash thoroughly with soap and water. If irritation occurs, contact a physician.

5. Firefighting measures

Flash Point (Closed Cup):
See Section 11 for exact values.

Flammable Limits: LFL 0.9 % UFL 11.6 %

Extinguishing Media:
Universal aqueous film-forming foam, carbon dioxide, dry chemical.

Fire Fighting Procedures:
Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Fire and Explosion Hazards:
For flammable liquids, vapor/air will ignite when an ignition source is present. In other cases, when heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

6. Accidental release measures

Procedures for cleaning up spills or leaks:
Ventilate area. Remove sources of ignition. Prevent skin and eye contact and breathing of vapor. If material does not contain or is not mixed with an isocyanate activator/hardener: Wear a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH approved TC-23C), eye protection, gloves and protective clothing. Confine, remove with inert absorbent, and dispose of properly. If the material contains, or is mixed with an isocyanate activator/hardener: Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TMN 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance). Pressure can be generated. Do not seal waste containers for 48 hours to allow C02 to vent. After 48 hours, material may be sealed and disposed of properly.

Ecological information:
There is no data available on the product. The product should not be allowed to enter drains, water courses or the soil.

7. Handling and storage

Precautions to be taken in handling and storing:
Observe label precautions. If combustible (flashpoint between 38-93 deg C or 100 - 200 deg F), keep away from heat, sparks and flame. If flammable (flashpoint less than 38 deg C or 100 deg F), also keep away from static discharges and other sources of ignition. If material is extremely flammable (flashpoint less than - 8 deg C or 20 deg F) or flammable, VAPORS MAY IGNITE EXPLOSIVELY OR CAUSE FLASH FIRE, respectively. Vapors may spread long distances. Prevent buildup of vapors. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 49 deg C or 120 deg F. If product is waterbased, do not freeze.

Other precautions:
If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g.NFPA-654).

8. Exposure controls/personal protection

Ventilation:
Provide sufficient ventilation in volume and pattern to keep contaminants below applicable exposure limits.

Respiratory protection:
Do not breathe vapors or mists. If this product contains isocyanates or is used with an isocyanate activator/hardener, wear a positive-pressure, supplied- air respirator (NIOSH approved TC-19C) during spray application (or brush and roll application in poorly ventilated areas) and until all vapors and spray mist are exhausted. For mixing and brush and roll application in well ventilated areas or, if the product does not contain or is not mixed with an isocyanate activator/hardener, a properly fitted air-purifying respirator with organic vapor cartridges (NIOSH TC-23C) may be used until all vapors are exhausted. In addition, for spray application when product does not contain or is not mixed with an isocyanate activator/hardener, a particulate filter (NIOSH TC-84A) is needed with the organic vapor cartridges until all vapors and spray mist are exhausted. Follow respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to vapor or spray mist if product contains or is mixed with isocyanate activators/hardeners.

Protective equipment:
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Skin and body protection:
Neoprene gloves and coveralls are recommended.
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

9. Physical and chemical properties

Evaporation rate	Slower than Ether
Water solubility	NIL
Vapour density	Heavier than air
Approx. Boiling Range (°C)	77 – 203 °C
Approx. Freezing Range (°C)	-84 °C
Gallon Weight (lbs/gal)	7.24381 - 11.1495
Specific Gravity	0.87 - 1.34
Percent Volatile By Volume	0.19 - 100.00
Percent Volatile By Weight	0.00 - 99.73
Percent Solids By Volume	0.00 - 99.82
Percent Solids By Weight	0.00 - 99.84

10. Stability and reactivity

Stability:
Stable

Incompatibility (materials to avoid):
None reasonably foreseeable

Hazardous decomposition products:
CO, C02, smoke, and oxides of any heavy metals that are reported in “Composition, Information on Ingredients” section.

Hazardous Polymerization:
Will not occur.

Sensitivity to Static Discharge:
For flammable materials (flashpoint less than 38 deg C or 100 deg F) and combustibles (flashpoint between 38- 93 deg C or 100-200 deg F) if heated above the flashpoint, solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact:
None known.

11. Additional Information

189S™ 2,4-pentanedione(99.7%) **GAL WT: 8.14 WT PCT SOLIDS: 0.27 VOL PCT SOLIDS: 0.25 SOLVENT DENSITY: 8.14 VOC LE: 8.1 VOC AP: 8.1 FLASH POINT: 73 °F to below 100 °F H: 2 F: 3 R: 0 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

193S™ Aliphatic polyisocyanate resin(74.9%), Butyl acetate(6.9%), Ethyl acetate(13.8%), Ethylene glycol monobutyl ether acetate(4.3%*@) **GAL WT: 9.09 WT PCT SOLIDS: 74.99 VOL PCT SOLIDS: 69.80 SOLVENT DENSITY: 7.53 VOC LE: 2.3 VOC AP: 2.3 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

389S™ 2,4-pentanedione(99.0%), Dibutyl tin dilaurate(1.0%) **GAL WT: 8.14 WT PCT SOLIDS: 1.00 VOL PCT SOLIDS: 0.94 SOLVENT DENSITY: 8.14 VOC LE: 8.1 VOC AP: 8.1 FLASH POINT: 73 °F to below 100 °F H: 2 F: 3 R: 0 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

4NB34P™ 1,2,4-trimethyl benzene(2.2%*), Alkyd resin(40.5%), Aromatic hydrocarbon(2.8%), Ethylbenzene(4.6%*@), Limestone (calcium carbonate)(21.4%), Methyl amyl ketone(1.1%), Methyl isobutyl ketone(5.9%*@), Xylene(18.6%*@) **GAL WT: 9.41 WT PCT SOLIDS: 63.07 VOL PCT SOLIDS: 51.02 SOLVENT DENSITY: 7.11 VOC LE: 3.5 VOC AP: 3.5 FLASH POINT: 73 °F to below 100 °F H: 1 F: 3 R: 0 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: YES**

9M01™ 4-chlorobenzotrifluoride(99.0%) **GAL WT: 11.15 WT PCT SOLIDS: 0.00 VOL PCT SOLIDS: 0.00 SOLVENT DENSITY: 11.15 VOC LE: 0.0 VOC AP: 0.0 FLASH POINT: 100 °F - 141 °F H: 1 F: 2 R: 1 OSHA STORAGE: II TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T00-A™ 4-chlorobenzotrifluoride(5.0%), Aliphatic polyisocyanate resin(94.9%) **GAL WT: 9.83 WT PCT SOLIDS: 95.00 VOL PCT SOLIDS: 95.59 SOLVENT DENSITY: 11.16 VOC LE: 0.0 VOC AP: 0.0 FLASH POINT: 73 °F to below 100 °F H: 3 F: 3 R: 1 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T01™ 4-chlorobenzotrifluoride(6.4%), Acetone(1.2%), Acrylic polymer(23.9%), Aluminum hydroxide(1.0%), Amorphous silica(1.6%), Polyester resin(9.8%), T-butyl acetate(25.5%), Titanium dioxide(26.2%) **GAL WT: 10.66 WT PCT SOLIDS: 65.36 VOL PCT SOLIDS: 51.97 SOLVENT DENSITY: 7.68 VOC LE: 3.1 VOC AP: 2.9 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T02™ 4-chlorobenzotrifluoride(13.0%), Acetone(1.9%), Acrylic polymer(36.0%), Carbon black(1.5%), Polyester resin(15.1%), T-butyl acetate(25.8%) **GAL WT: 8.69 WT PCT SOLIDS: 56.67 VOL PCT SOLIDS: 53.22 SOLVENT DENSITY: 8.04 VOC LE: 2.8 VOC AP: 2.4 VOC LE (TBAC): 0.4 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T03™ 4-chlorobenzotrifluoride(1.4%), Acetone(1.6%), Acrylic polymer(35.4%), C.i. pigment yellow 154(10.2%), Polyester resin(15.0%), T-butyl acetate(29.4%) **GAL WT: 8.64 WT PCT SOLIDS: 64.69 VOL PCT SOLIDS: 58.10 SOLVENT DENSITY: 7.28 VOC LE: 2.9 VOC AP: 2.8 VOC LE (TBAC): 0.4 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 0 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T04™ 4-chlorobenzotrifluoride(9.8%), Acetone(1.9%), Acrylic polymer(33.6%), Polyester resin(12.7%), Quinacridone pigment(8.0%), T-butyl acetate(27.5%) **GAL WT: 8.77 WT PCT SOLIDS: 58.57 VOL PCT SOLIDS: 53.63 SOLVENT DENSITY: 7.83 VOC LE: 2.9 VOC AP: 2.6 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T05™ 4-chlorobenzotrifluoride(15.1%), Acetone(1.4%), Acrylic polymer(32.2%), Isoindolinone pigment(7.4%), Polyester resin(13.2%), T-butyl acetate(24.5%) **GAL WT: 8.90 WT PCT SOLIDS: 56.33 VOL PCT SOLIDS: 52.58 SOLVENT DENSITY: 8.20 VOC LE: 2.8 VOC AP: 2.4 VOC LE (TBAC): 0.4 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T06™ 4-chlorobenzotrifluoride(10.3%), Acetone(1.5%), Acrylic polymer(30.0%), C.i. pigment red 254(12.9%), Polyester resin(11.9%), T-butyl acetate(27.8%) **GAL WT: 8.90 WT PCT SOLIDS: 58.28 VOL PCT SOLIDS: 52.85 SOLVENT DENSITY: 7.87 VOC LE: 3.0 VOC AP: 2.7 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T07™ 4-chlorobenzotrifluoride(12.7%), Acetone(1.8%), Acrylic polymer(34.7%), Phthalocyanine blue pigment(4.0%), Polyester resin(14.7%), T-butyl acetate(25.4%) **GAL WT: 8.77 WT PCT SOLIDS: 57.73 VOL PCT SOLIDS: 53.92 SOLVENT DENSITY: 8.04 VOC LE: 2.8 VOC AP: 2.4 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2**

FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO

9T08™ 4-chlorobenzotrifluoride(8.8%), Acetone(1.2%), Acrylic polymer(29.2%), Iron hydroxide(19.7%), Polyester resin(10.2%), T-butyl acetate(26.3%) **GAL WT: 9.95 WT PCT SOLIDS: 61.91 VOL PCT SOLIDS: 51.59 SOLVENT DENSITY: 7.83 VOC LE: 3.1 VOC AP: 2.8 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T09™ 4-chlorobenzotrifluoride(10.9%), Acetone(1.4%), Acrylic polymer(35.6%), Phthalocyanine green(4.3%), Polyester resin(12.5%), T-butyl acetate(28.2%) **GAL WT: 8.75 WT PCT SOLIDS: 56.27 VOL PCT SOLIDS: 51.55 SOLVENT DENSITY: 7.89 VOC LE: 3.1 VOC AP: 2.7 VOC LE (TBAC): 0.5 VOC AP (TBAC): 0.3 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T10™ 1,3-propanediol, homo polymer(2.0%), 4-chlorobenzotrifluoride(5.4%), Acetone(3.3%), Acrylic polymer(32.7%), Polyester resin(12.6%), Quinacridone pigment(11.0%), T-butyl acetate(27.6%) **GAL WT: 8.69 WT PCT SOLIDS: 61.45 VOL PCT SOLIDS: 55.52 SOLVENT DENSITY: 7.53 VOC LE: 2.8 VOC AP: 2.6 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T11™ 4-chlorobenzotrifluoride(6.4%), Acetone(1.2%), Acrylic polymer(23.9%), Aluminum hydroxide(1.0%), Amorphous silica(1.6%), Polyester resin(9.8%), T-butyl acetate(25.5%), Titanium dioxide(26.2%) **GAL WT: 10.66 WT PCT SOLIDS: 65.35 VOL PCT SOLIDS: 51.97 SOLVENT DENSITY: 7.68 VOC LE: 3.1 VOC AP: 2.9 VOC LE (TBAC): 0.3 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T12™ 2,4-pentanedione(1.2%), 4-chlorobenzotrifluoride(12.2%), Acetone(1.5%), Acrylic polymer(31.3%), Iron oxide(10.7%), Polyester resin(14.0%), T-butyl acetate(22.9%) **GAL WT: 9.52 WT PCT SOLIDS: 60.75 VOL PCT SOLIDS: 53.80 SOLVENT DENSITY: 8.09 VOC LE: 2.8 VOC AP: 2.4 VOC LE (TBAC): 0.4 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

9T13™ 4-chlorobenzotrifluoride(8.5%), Acetone(1.2%), Acrylic polymer(30.5%), Monoazo pigment(16.3%), Polyester resin(10.9%), T-butyl acetate(26.2%) **GAL WT: 9.01 WT PCT SOLIDS: 60.77 VOL PCT SOLIDS: 54.67 SOLVENT DENSITY: 7.79 VOC LE: 2.9 VOC AP: 2.7 VOC LE (TBAC): 0.5 VOC AP (TBAC): 0.3 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-0162™ 2-ethylhexyl acetate(3.8%), Acetone(1.5%), Aliphatic polyisocyanate resin(74.9%), Butyl acetate(11.0%), Propylene glycol monomethyl ether acetate(8.7%) **GAL WT: 9.08 WT PCT SOLIDS: 75.00 VOL PCT SOLIDS: 69.75 SOLVENT DENSITY: 7.50 VOC LE: 2.2 VOC AP: 2.1 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-062™ 2-ethylhexyl acetate(3.8%), Aliphatic polyisocyanate resin(74.9%), Butyl acetate(12.5%), Propylene glycol monomethyl ether acetate(8.7%) **GAL WT: 9.10 WT PCT SOLIDS: 75.00 VOL PCT SOLIDS: 69.90 SOLVENT DENSITY: 7.55 VOC LE: 2.3 VOC AP: 2.3 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-1333™ 4-chlorobenzotrifluoride(2.5%), Aliphatic polyisocyanate resin(94.9%), Methyl acetate(2.4%) **GAL WT: 9.73 WT PCT SOLIDS: 95.00 VOL PCT SOLIDS: 94.70 SOLVENT DENSITY: 9.17 VOC LE: 0.0 VOC AP: 0.0 FLASH POINT: 141 °F - 200 °F H: 3 F: 2 R: 1 OSHA STORAGE: IIIA TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-1633™ Aliphatic polyisocyanate resin(94.9%), Butyl acetate(2.5%), T-butyl acetate(2.5%) **GAL WT: 9.60 WT PCT SOLIDS: 95.00 VOL PCT SOLIDS: 93.39 SOLVENT DENSITY: 7.26 VOC LE: 0.5 VOC AP: 0.5 VOC LE (TBAC): 0.2 VOC AP (TBAC): 0.2 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-33321™ 4-chlorobenzotrifluoride(2.3%), Methyl acetate(1.6%), Polyisocyanate(96.0%) **GAL WT: 9.78 WT PCT SOLIDS: 96.04 VOL PCT SOLIDS: 95.91 SOLVENT DENSITY: 9.45 VOC LE: 0.0 VOC AP: 0.0 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 0 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-572™ 1,6-hexamethylene diisocyanate(0.1%*@), Aliphatic polyisocyanate resin(94.4%), Polyisocyanate based on hdi(2.3%), Reactive diluent e(2.8%) **GAL WT: 9.69 WT PCT SOLIDS: 99.84 VOL PCT SOLIDS: 99.82 SOLVENT DENSITY: 8.23 VOC LE: 0.0 VOC AP: 0.0 FLASH POINT: Above 200 °F H: 3 F: 1 R: 1 OSHA STORAGE: IIIB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

FG-633™ Aliphatic polyisocyanate resin(94.9%), Butyl acetate(5.0%) **GAL WT: 9.61 WT PCT SOLIDS: 95.00 VOL PCT SOLIDS: 93.46 SOLVENT DENSITY: 7.34 VOC LE: 0.5 VOC AP: 0.5 FLASH POINT: 100 °F - 141 °F H: 3 F: 2 R: 1 OSHA STORAGE: II TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

RT002P™ Ethylbenzene(18.8%*@), Silicone resin(1.5%), Xylene(79.2%*@) **GAL WT: 7.24 WT PCT SOLIDS: 1.50 VOL PCT SOLIDS: 1.19 SOLVENT DENSITY: 7.22 VOC LE: 7.1 VOC AP: 7.1 FLASH POINT: 73 °F to below 100 °F H: 2 F: 3 R: 0 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: YES**

VG-6005™ 1,2,4-trimethyl benzene(1.7%*), Aliphatic polyisocyanate resin(89.9%), Aromatic hydrocarbon(2.6%), Butyl acetate(5.0%) **GAL WT: 9.45 WT PCT SOLIDS: 90.00 VOL PCT SOLIDS: 87.10 SOLVENT DENSITY: 7.29 VOC LE: 0.9 VOC AP: 0.9 FLASH POINT: 100 °F - 141 °F H: 3 F: 2 R: 1 OSHA STORAGE: II TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: YES**

VG-610™ Aliphatic polyisocyanate resin(74.9%), Butyl acetate(6.9%), Ethyl acetate(13.8%), Ethylene glycol monobutyl ether acetate(4.3%*@) **GAL WT: 9.09 WT PCT SOLIDS: 74.96 VOL PCT SOLIDS: 69.77 SOLVENT DENSITY: 7.53 VOC LE: 2.3 VOC AP: 2.3 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

VG-805™ 2,4-pentanedione(98.0%), Organotin compound(2.0%) **GAL WT: 8.19 WT PCT SOLIDS: 2.00 VOL PCT SOLIDS: 1.42 SOLVENT DENSITY: 8.14 VOC LE: 8.0 VOC AP: 8.0 FLASH POINT: 73 °F to below 100 °F H: 2 F: 3 R: 0 OSHA STORAGE: IC TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

VGM-6005™ 1,2,4-trimethyl benzene(1.7%*), Aliphatic polyisocyanate resin(89.9%), Aromatic hydrocarbon(2.6%), Butyl acetate(5.0%) **GAL WT: 9.45 WT PCT SOLIDS: 90.00 VOL PCT SOLIDS: 87.10 SOLVENT DENSITY: 7.29 VOC LE: 0.9 VOC AP: 0.9 FLASH POINT: 100 °F - 141 °F H: 3 F: 2 R: 1 OSHA STORAGE: II TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: YES**

VGY611™ Aliphatic polyisocyanate resin(74.9%), Butyl acetate(6.9%), Ethyl acetate(13.8%), Ethylene glycol monobutyl ether acetate(4.3%*@) **GAL WT: 9.09 WT PCT SOLIDS: 74.99 VOL PCT SOLIDS: 69.80 SOLVENT DENSITY: 7.53 VOC LE: 2.3 VOC AP: 2.3 FLASH POINT: 20 °F to below 73 °F H: 3 F: 3 R: 1 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

VHY691™ Dibutyl tin dilaurate(1.6%), Ethyl acetate(98.3%) **GAL WT: 7.54 WT PCT SOLIDS: 1.55 VOL PCT SOLIDS: 1.34 SOLVENT DENSITY: 7.52 VOC LE: 7.4 VOC AP: 7.4 FLASH POINT: 20 °F to below 73 °F H: 1 F: 3 R: 0 OSHA STORAGE: IB TSCA STATUS: In Compliance PHOTOCHEMICALLY REACTIVE: NO**

Footnotes:
TSCA: in compliance In compliance with TSCA Inventory requirements for commercial purposes.
ACGIH American Conference of Governmental Industrial Hygienists.
IARC International Agency for Research on Cancer.
NTP National Toxicology Program.
OSHA Occupational Safety and Health Administration.
PNOR Particles not otherwise regulated.
PNOC Particles not otherwise classified.
STEL Short term exposure limit.
TWA Time-weighted average.

* VOC less exempt (theoretical) and VOC as packaged (theoretical) are based upon the VOC of the packaged material at the point of manufacture.
TBAC is not universally recognized as an exempt solvent.
Users should consult the applicable regulations for their region.
All products denoted with TM or ® are trademarks or registered trademarks of E. I. du Pont de Nemours and Company or its affiliates.
***** = Section 313 Supplier Notification: These chemicals are subject to the reporting requirements of Section 313 of the Emergency planning and Right-to-Know act of 1986 and of 40 CFR 372.
@ = Listed as a Clean Air Act Hazardous Air Pollutant.
# = EPCRA Section 302 - Extremely hazardous substances.

Notice:
The information on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
Product Manager: Refinish Sales
Prepared by: Y. B. Yarbrough

There was a PDF conversion failure for -

Product Name: Invisible Glass
CAS Number:
Manufacturer: STONER INCORPORATED
SDS Date: 5/31/2015

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MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**Jet Fuels**
Version #	04
Issue date	23-October-2010
Revision date	03-September-2014
Supersedes date	13-November-2012
CAS #	Mixture
MSDS Number	104
Product use	Refinery feedstock.
Synonym(s)	Jet Fuel, Jet Fuel Stock, Jet A, Aviation Jet Fuel A, JP-5, JP-8, DERD See section 16 for complete information.
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates P.O. Box 696000 San Antonio, TX 78269-6000
General Assistance	210-345-4593
Emergency	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazards Identification

Physical state	Liquid.
Appearance	Liquid (may be dyed red).
Emergency overview	DANGER! Combustible liquid and vapor. Will be easily ignited by heat, spark or flames. Heat may cause the containers to explode. Harmful if inhaled, absorbed through skin, or swallowed. Aspiration may cause lung damage. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Exhaust Fumes have been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties. Contains benzene. Cancer hazard. Mutagen. May cause heritable genetic damage. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Prolonged exposure may cause chronic effects. Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Static accumulating flammable materials can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite material and vapor may cause flash fire (or explosion).
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin	Harmful if absorbed through skin. Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Harmful if inhaled. Irritating to respiratory system. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. May cause breathing disorders and lung damage. May cause cancer by inhalation. Prolonged inhalation may be harmful.
Ingestion	Harmful if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Irritating to mouth, throat, and stomach.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin. Kidneys. Central nervous system.

Chronic effects Cancer hazard. Contains material which may have reproductive toxicity, teratogenetic or mutagenic effects. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Potential environmental effects Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Kerosene	8008-20-6	0 - 100
Naphthalene	91-20-3	0 - 3
Xylene (o,m,p isomers)	1330-20-7	0 - 2
Benzene	71-43-2	0 - 1
Ethylbenzene	100-41-4	0 - 1
Toluene	108-88-3	0 - 1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if discomfort develops or persists.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.

Notes to physician In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties Combustible by OSHA criteria. Containers may explode when heated.

Extinguishing media

Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.
Hazardous combustion products	Carbon monoxide. Carbon dioxide. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.
Storage	Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Naphthalene (CAS 91-20-3)	TWA	10 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3
		10 ppm
Xylene (o,m,p isomers) (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Benzene (CAS 71-43-2)	STEL	8 mg/m3	
		2.5 ppm	
	TWA	1.6 mg/m3	
		0.5 ppm	
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3	
		125 ppm	
	TWA	434 mg/m3	
		100 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Vapor.
Naphthalene (CAS 91-20-3)	STEL	79 mg/m3	
		15 ppm	
	TWA	52 mg/m3	
		10 ppm	
Toluene (CAS 108-88-3)	TWA	188 mg/m3	
		50 ppm	
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	651 mg/m3	
		150 ppm	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
	TWA	434 mg/m3	
		100 ppm	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Benzene (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
Ethylbenzene (CAS 100-41-4)	STEL	125 ppm	
	TWA	100 ppm	
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	15.5 mg/m3
		5 ppm
	TWA	3 mg/m3
		1 ppm
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Naphthalene (CAS 91-20-3)	STEL	79 mg/m3
		15 ppm
	TWA	52 mg/m3
		10 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3
		100 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	16 mg/m3
		5 ppm
	TWA	3.2 mg/m3
		1 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3
		15 ppm
	TWA	50 mg/m3
		10 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o,m,p isomers) (CAS 1330-20-7)	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (o,m,p isomers) (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Toluene (CAS 108-88-3)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

Mexico OELs: Skin designation

Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - California OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Kerosene (CAS 8008-20-6)	Can be absorbed through the skin.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.

Engineering controls Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Personal protective equipment

Eye / face protection Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

Hand protection Avoid exposure - obtain special instructions before use. Wear protective gloves.

General hygiene considerations Avoid contact with skin. Keep away from food and drink. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance Liquid (may be dyed red).

Physical state Liquid.

Form Liquid.

Color Clear. Straw.

Odor Kerosene (strong).

Odor threshold Not available.

pH Not available.

Vapor pressure < 2.7 kPa (<20mmHg) (at 20 °C)

Vapor density 3 (Air=1)

Boiling point 320 - 579.9 °F (160 - 304.39 °C)

Melting point/Freezing point	Not available.
Solubility (water)	Not available.
Specific gravity	0.79 - 0.84 (Water=1)
Flash point	> 100.0 °F (> 37.8 °C) Closed Cup
Flammability limits in air, upper, % by volume	<= 7
Flammability limits in air, lower, % by volume	>= 0.7
Auto-ignition temperature	399.9 °F (204.39 °C)
Evaporation rate	< 0.1 (butyl acetate = 1)
Percent volatile	Negligible.
Other data	
Flammability	Flammable liquid and vapor
Flash point class	Flammable IC

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide. Carbon dioxide. Sulfur oxides. Hydrocarbons.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Benzene (CAS 71-43-2)		
Acute		
Dermal		
LD50	Guinea pig; Rabbit	> 9.4 ml/kg, 24 Hours
Inhalation		
LC50	Mouse	9980 ppm
		9980 ppm, 7 Hours
	Rat	43767 mg/m3, 4 Hours
		13700 ppm, 4 Hours
		10000 ppm, 7 Hours
Oral		
LD50	Rat	5970 mg/kg
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
		17.8 ml/kg, 24 Hours
Inhalation		
LC50	Mouse	> 8000 ppm, 20 Minutes
	Rat	4000 ppm
Oral		
LD50	Rat	5.46 g/kg

Components	Species	Test Results
Other		
LD50	Mouse	17.81 mm/kg
Kerosene (CAS 8008-20-6)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 4.3 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Naphthalene (CAS 91-20-3)		
Acute		
Dermal		
LD50	Rabbit	> 2 g/kg
Oral		
LD50	Rat	490 mg/kg
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	14.1 ml/kg
Inhalation		
LC50	Rat	49000 mg/m^3, 4 Hours
Oral		
LD50	Rat	636 mg/kg
Xylene (o,m,p isomers) (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	12126 mg/kg, 24 Hours
		> 5000 ml/kg, 4 Hours
Inhalation		
LC50	Mouse	5300 ppm, 6 Hours
	Rat	5922 ppm, 4 Hours
Oral		
LD50	Mouse	5251 mg/kg
	Rat	3523 mg/kg
		10 ml/kg

Sensitization This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Acute effects Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

Chronic effects Prolonged and repeated exposure to benzene may cause serious injury to blood forming organs and is associated with anemia and to the later development of acute myelogenous leukemia (AML). Toluene has been reported to decrease immunological responses and cause recordable hearing loss in laboratory animals. Repeated exposure to naphthalene may cause cataracts, allergic skin rashes, destruction of red blood cells, and anemia, jaundice, kidney and liver damage. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Danger of serious damage to health by prolonged exposure. Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.

Subchronic effects Subchronic inhalation of benzene by rats produced decreased white blood cell counts, decreased bone marrow cell activity, increased red blood cell activity and cataracts. Blood disorders may occur after prolonged inhalation, prolonged skin contact and/or ingestion. Liver and kidney damage may occur after prolonged and repeated exposure.

Carcinogenicity

ACGIH Carcinogens

Benzene (CAS 71-43-2)	A1 Confirmed human carcinogen.
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Kerosene (CAS 8008-20-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene (CAS 91-20-3)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.
Xylene (o,m,p isomers) (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (o,m,p isomers) (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2)	Cancer

US NTP Report on Carcinogens: Anticipated carcinogen

Naphthalene (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

US NTP Report on Carcinogens: Known carcinogen

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.

Epidemiology Contains benzene. Human epidemiology studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-producing system and serious blood disorders, including leukemia. Animal tests suggest that prolonged and/or repeated overexposure to benzene may damage the embryo/fetus. The relevance of these animal studies to humans has not been fully established.

Mutagenicity Some middle distillate fuels have caused chromosome damage in the in-vivo rat bone marrow cytogenetics assay and caused mutagenic effects in the L5178Y mouse lymphoma assay. In in-vitro experiments, neither benzene, toluene nor xylene changed the number of sister-chromatid exchanges (SCEs) or the number of chromosomal aberrations in human lymphocytes. However, toluene and xylene caused a significant cell growth inhibition which was not observed with benzene in the same concentrations. In in-vivo experiments, toluene changed the number of sister-chromatid exchanges (SCEs) in human lymphocytes. Toluene may cause heritable genetic damage.

Neurological effects Central and/or peripheral nervous system damage. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.

Reproductive effects Benzene, xylene and toluene have demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Napthalene interferes with embryo development in experimental animals at dose levels that cause maternal toxicity. In humans, excessive exposure to this agent may cause hemolytic anemia in the mother and fetus. May damage fertility or the unborn child. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Avoid exposure to women during early pregnancy. Avoid contact during pregnancy/while nursing.

Teratogenicity Abusive inhalation of toluene ("glue sniffing") has been reported to be associated with birth defects in the offspring of abusers. Rats exposed to benzene and xylene vapor during pregnancy showed embryo/fetotoxic effects.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
Benzene (CAS 71-43-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours

Components		Species	Test Results
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.3 mg/l, 96 hours
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4 mg/l, 96 hours
Naphthalene (CAS 91-20-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	0.95 - 1.62 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.89 - 7.81 mg/l, 96 hours
Xylene (o,m,p isomers) (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8 mg/l, 96 Hours

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Aquatic toxicity Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and degradability Not available.

Bioaccumulation / accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Benzene (CAS 71-43-2)	2.13
Ethylbenzene (CAS 100-41-4)	3.15
Toluene (CAS 108-88-3)	2.73
Xylene (o,m,p isomers) (CAS 1330-20-7)	3.2

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 °F
D018: Waste Benzene

US RCRA Hazardous Waste U List: Reference

Benzene (CAS 71-43-2)	U019
Naphthalene (CAS 91-20-3)	U165
Toluene (CAS 108-88-3)	U220
Xylene (o,m,p isomers) (CAS 1330-20-7)	U239

Disposal instructions Dispose in accordance with all applicable regulations. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1863
Proper shipping name	Fuel, aviation, turbine engine
Hazard class	- Combustible Liquid
Labels required	3

Packing group	III
Environmental hazards	
Marine pollutant	Yes
Additional information:	
Special provisions	144, B1, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1863
UN proper shipping name	Fuel, aviation, turbine engine
Transport hazard class(es)	3
Packing group	III
Environmental hazards	Yes
ERG code	3L

IMDG

UN number	UN1863
UN proper shipping name	FUEL, AVIATION, TURBINE ENGINE
Transport hazard class(es)	3
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E

TDG

UN number	UN1863
Proper shipping name	FUEL, AVIATION, TURBINE ENGINE
Hazard class	3
Packing group	III
Marine pollutant	Yes

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15. Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
Ethylbenzene (CAS 100-41-4)
Naphthalene (CAS 91-20-3)
Toluene (CAS 108-88-3)
Xylene (o,m,p isomers) (CAS 1330-20-7)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Benzene (CAS 71-43-2)	0.1 %
Ethylbenzene (CAS 100-41-4)	0.1 %
Naphthalene (CAS 91-20-3)	0.1 %
Toluene (CAS 108-88-3)	1.0 %
Xylene (o,m,p isomers) (CAS 1330-20-7)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o,m,p isomers) (CAS 1330-20-7)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Naphthalene: 100
Xylene (o,m,p isomers): 100
Benzene: 10
Ethylbenzene: 1000
Toluene: 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15) Not controlled

WHMIS status Controlled

WHMIS classification
B3 - Combustible Liquids
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations

US - California Hazardous Substances (Director's): Listed substance

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o,m,p isomers) (CAS 1330-20-7)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
Toluene (CAS 108-88-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987 Carcinogenic.
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004 Carcinogenic.
Naphthalene (CAS 91-20-3)	Listed: April 19, 2002 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Developmental toxin.

Toluene (CAS 108-88-3)	Listed: January 1, 1991 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009 Female reproductive toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Male reproductive toxin.

US. Massachusetts RTK - Substance List

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Kerosene (CAS 8008-20-6)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o,m,p isomers) (CAS 1330-20-7)	Listed.

US. New Jersey Worker and Community Right-to-Know Act

Benzene (CAS 71-43-2)
Ethylbenzene (CAS 100-41-4)
Kerosene (CAS 8008-20-6)
Naphthalene (CAS 91-20-3)
Toluene (CAS 108-88-3)
Xylene (o,m,p isomers) (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Benzene (CAS 71-43-2)
Ethylbenzene (CAS 100-41-4)
Kerosene (CAS 8008-20-6)
Naphthalene (CAS 91-20-3)
Toluene (CAS 108-88-3)
Xylene (o,m,p isomers) (CAS 1330-20-7)

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

Note: This material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical Specifications vary greatly depending on the products and are not reflected in this document. Consult specification sheets for technical information.

HMIS® ratings

Health: 1*
Flammability: 2
Physical hazard: 0

NFPA ratings

Disclaimer

This Material Safety Data Sheet (MSDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this MSDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

Prepared by

Not available.

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Tukwila, WA 98108

Jet Set California, Inc.
2150 Edison Ave.
San Leandro, CA 94577

Jet Set Cement Corp.
Dallas TX

Emergency Telephone
(510) 632-7800

Information Line
(206) 762-0434

Revision Date: September 2015

Section 1: Product Identification

Product Identifier:	Dry Packaged Cement-Based Product
Jet Set Cement Product Name:	- Jet Set Complete Repair - Jet Pour - Jet Plug - Jet Set Wilson Latex - Jet Set Smooth
Recommended Use:	Concrete Repair

Section 2: Hazard Identification

Extended inhalation of crystalline silica may cause silicosis, a lung disorder which may be deadly. When the product is mixed with water it can cause dry skin and alkali burns. Cement dust can irritate eyes and upper respiratory system.

Applicable hazard statement based on cement content
Danger.
H318: Causes serious eye damage
H315: Causes skin irritation

Applicable hazard statement based on crystalline silica content
Danger.
H350: May cause cancer from inhaling dust.
H372: Causes damage to respiratory system through prolonged or repeated exposure to inhaling dust

This product is categorized as a Health Hazard Carcinogen Category 1A because it contains crystalline silica (quartz). It is categorized as a Health Hazard (serious eye damage/eye irritation - Category 1 and skin irritation - Category 2) because it contains Portland cement.

Applicable Precautionary Statements:

Based on cement content:
P280: Wear skin and eye protection (water resistant protective gloves, goggles recommended to prevent dust in eyes)
P264: Wash any exposed skin thoroughly after handling material
P305+P351+p338: IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing
P302+P352: IF ON SKIN Wash with water and soap
P332+P313: IF SKIN IRRITATION OCCURS, get medical attention
P310: Immediately call a doctor if any eye irritation or discomfort develops

Based on crystalline silica content:
P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dusts
P270: Do not eat, drink or smoke when using this product
P280: Wear eye protection
P308+P313+P314: If exposed, have concerns, or if you feel unwell: Get medical advice
P501: Dispose of contents in accord with local regulations

Section 3: Composition/Information on Ingredients

Ingredient	Total Percentage	CAS #
Portland Cement	10-70%	65997-15-1
Silica Sand	30-50%	14808-60-7
Calcium Sulphate Hemihydrate	10-70%	7778-18-9
Calcium hydroxide	10-70%	1305-78-8
Magnesium hydroxide	1-10%	1309-42-8
Silicon dioxide	1-20%	7631-86-9
Calcium Aluminate	10-70%	12042-68-1

**Proprietary ingredients are comprised of products that fully comply with maximum limits allowed under OSHA PEL, ACGIH TLV, and other safety limits.

Section 4: First-aid Measures

Inhalation: If irritation develops get to fresh air. If not breathing, give artificial respiration.
Eye Contact: Irrigate eyes with water, holding eyelids open and flushing with water. Get medical attention for any discomfort or irritation. If contact lenses are present remove them if it is easy to do so and continue washing eyes.
Skin Contact: Wash affected areas of the body with soap and water. Use hand creams. Get medical attention for any burns or rashes.
Ingestion: Check with Poison Control Center or a doctor. Do not induce vomiting unless directed to by medical personnel.

Signs and Symptoms of Exposure:

Dry skin, irritated nose or eyes, coughing, hard to breath may be symptoms cement dust exposure.

Coughing, congestion, shortness of breath may be symptoms of crystalline silica. Long term exposure can cause silicosis and lung cancer.

Treat according to symptoms, no known specific antidote.

Section 5: Fire Fighting Measures

Fire Hazards: None. Product will not burn.

Chemical Hazards: None expected. Material will not combust.

Personal Protective Gear: Fire fighters should use respiratory device if bags are broken and dust is present.

Section 6: Accidental Release Measures

Contain and clean up. Avoid creating dust or adding water to the product (use dry cleanup only). Do not wash down drains or allow to enter sewers - Product will harden when mixed with water.

Dispose of any unwanted material in accordance with all regulations.

Section 7: Handling and Storage

Safe Handling: Avoid breathing dust. Handle material in well ventilated area. Wear protective respiratory device as to avoid over-exposure.

Safe Storage: Store in a dry, locked area. Do not allow moisture to make contact with product. Keep out of reach of children.

Section 8: Exposure Controls/Personal Protection

Common Name	CAS#	OSHA PEL	ACGIH TLV
Calcium Salts - Cement	65997-15-1	10 mg/m3	10 mg/m3
Calcium Sulphate Hemihydrate	7778-18-9	5 mg/m3	10 mg/m3
Silica Sand	14808-60-7	0.1 mg/m3	0.1 mg/m3

15.0 mg/m3 TOTAL DUST

Respiratory Protection: In dusty environments, use of a NIOSH approved respirator is recommended.

Ventilation: Local exhaust if necessary. Mechanical (General) if necessary.

Protective gloves: Product can irritate/dry skin, gloves are recommended.

Eye protection: Recommended in dusty environments.

Section 9: Physical and Chemical Properties

Boiling Point: Not applicable

Vapor Pressure (mm Hg): N/A

Vapor Density (air = 1): N/A

Solubility in Water: Slight (0.1 - 1%)

Specific Gravity (H2O = 1): 3.00

Appearance and Odor: Grey powder, Odorless

Section 10: Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Materials to avoid: Acids, ammonium salts and corrosive gasses

Section 11: Toxicological Information

Routes of Exposure: Skin contact, eye contact, Inhalation or ingestion

Skin Contact: May cause moderate skin irritation. When the product is wet it can cause dry skin and alkali burns.

Eye Contact: Can cause serious eye damage including irritation and burns. Symptoms may include redness, itchy or burning eyes, excessive blinking and tear production.

Inhalation: Extended respiration of crystalline silica may cause silicosis, a lung disease.

Ingestion: Harmful if swallowed. May cause mild to moderate irritation of the digestive tract.

Section 12: Ecological Information

If dry product is mixed with a body of water it might have long term effects on the ecosystem. Dry product should not be poured into oceans, rivers, lakes, sewers or other bodies of water.

Section 13: Disposal Considerations

Hydrated material will solidify and is not classified as a hazardous waste. Landfill disposal.

Section 14: Transportation Information

Hazardous/Non-Hazardous: Non Hazardous Material

UN Number: None

Environmental Hazards: None

Section 15: Regulatory Information

Other Regulatory Considerations: None

Section 16: Other Information

Preparation Date: September, 2015

Prepared By: Luke Laures

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Premium Starting Fluid 50%
MSDS NO. 6732
Revision Date: 26-06-2012
Date Printed 26-06-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Johnsens Premium Starting Fluid 50%
Chemical Family: ETHER
Synonyms: None
Emergency Telephone (24 hr.): 24-Hour Emergency Information: CHEMTREC (800) 424-9300

Supplier: Technical Chemical Company, P.O. Box 139, Cleburne, Texas 76033

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	OSHA TWA	OSHA STEL	OSHA SKIN
Ethyl Ether 60-29-7	49-60	Not Listed	Not Listed	Not Listed
Heptane 142-82-5	20-30	Not Listed	Not Listed	Not Listed
Propane 74-98-6	5-15	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	2-10	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	2-10	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	.5-5	Not Listed	Not Listed	Not Listed

Component	Weight %	OSHA Z PEL	OSHA Z TWA	OSHA Z Ceiling
Ethyl Ether 60-29-7	49-60	1200 mg/m^3 400 ppm	1200 mg/m^3 400 ppm	Not Listed
Heptane 142-82-5	20-30	2000 mg/m^3 500 ppm	1600 mg/m^3 400 ppm	Not Listed
Propane 74-98-6	5-15	1800 mg/m^3 1000 ppm	1800 mg/m^3 1000 ppm	Not Listed
Carbon Dioxide 124-38-9	2-10	9000 mg/m^3 5000 ppm	18000 mg/m^3 10000 ppm	Not Listed
Iso-Butane 75-28-5	2-10	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	.5-5	2000 mg/m^3 500 ppm	1600 mg/m^3 400 ppm	Not Listed

Component	ACGIH TLV TWA	ACGIH TLV STEL	ACGIH TLV Ceiling
Ethyl Ether 60-29-7	400 ppm	500 ppm	Not Listed
Heptane 142-82-5	400 ppm	500 ppm	Not Listed
Propane 74-98-6	1000 ppm	Not Listed	Not Listed
Carbon Dioxide 124-38-9	5000 ppm	30000 ppm	Not Listed
Iso-Butane 75-28-5	1000 ppm	Not Listed	Not Listed

Lubricating Oil 64742-52-5	Not Listed	Not Listed	Not Listed

Other: This product contains trace amounts of (<15 ppm) of Butylated hydroxytoluene (BHT) as an inhibitor to prevent or reduce the formation of potentially explosive peroxides.

3. HAZARDS IDENTIFICATION

Emergency Overview: Danger: Extremely flammable. Breathing high concentrations of vapor or mist may cause nausea, vomiting, central nervous system (CNS) depression and asphyxiation. Symptoms may include headache, diziness, blurred vision, slurred speech, memory loss, confusion, faigue, loss of consciousness, convulsions, paralysis, or coma. This material is irritating to skin, eyes and respiratory tract. Keep away from heat, sparks and flame. Prolonged or repeated inhalation or ingestion may result in kidney and liver changes.

HMIS Classification: Health: *2 Flammability: 4 Physical Hazard: 2
NFPA Rating: Health: 2 Flammability: 4 Reactivity: 1

4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing. Do not permit victim to rub eyes.
Ingestion: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.
Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin Contact: Wash with soap and water for 15 minutes. If irritation persists or signs of toxicity occur, seek medical attention. Remove contaminated clothing and shoes, and launder before reuse.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point °F(°C): -76 F (-60 C)
Flash Point Method: TAG Closed Cup
Flammable Limits in Air - Lower (%): 1.2% (Lowest Component)
Flammable Limits in Air - Upper (%): 6.7% (Lowest Component)
Autoignition Temperature °F(°C): 356 F (180 C) (Lowest Component)
Extinguishing Media: Dry chemical. Carbon dioxide. Alcohol foam. Use water spray to keep containers cool that are exposed to heat or flames.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Wear approved positive-pressure self-contained breathing apparatus and protective clothing. Vapor may cause flash fire. Fight from a maximum distance or use unmanned hose holders or monitor nozzles. Containers can build up pressure if exposed to heat; cool with flooding quantities of water until well after the fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of vessel.
Hazardous Combustion Products: Carbon Dioxide. Carbon Monoxide.
Aerosol Comments: NFPA Level 3 Aerosol

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective clothing and equipment to prevent skin and eye contact.
Spill Procedures: Contain any liquid from leaking containers. Avoid all sources of ignition; heat, sparks and open flames.
Action to be taken if material is released or spilled: Do not puncture or incinerate container. Contents under pressure. Wear proper protective equipment as specified in the protective equipment section. Remove sources of ignition. Leaking containers should be removed to an isolated, well-ventilated area and transferred to other suitable containers. Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal.
Environmental Precautions: Do not allow to enter sanitary drains, sewer or surface and subsurface waters. Keep out of lakes, ponds or streams.

Trade Name: Johnsens Premium Starting Fluid 50%
MSDS NO. 6732
Revision Date: 26-06-2012
Date Printed 26-06-2012

7. HANDLING AND STORAGE

Handling and Storage: Caution: Contents under pressure. Keep away from heat and open flame. Use only in a well ventilated area. Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Do not puncture, incinerate or store above 120 F. Exposure to high temperatures may cause bursting. DO NOT store in the passenger compartment of an automobile. Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use in a well ventilated area. Local exhaust ventilation as necessary to maintain exposures to within applicable limits.
Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.
Skin Protection: Avoid skin contact. Wear protective clothing and gloves.
Respiratory Protection: Do not breath mist or vapor. Use in a well ventilated area. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless to pale yellow liquid
Odor: PUNGENT SWEET
pH Value: Not Determined
Vapor Pressure: Not Determined
Vapor Density (Air=1): >1.5 Approximate
Boiling Point (°F): -44 F (-42.2 C) (Lowest Component)
Melting/Freezing Point: Freezing -176F (Ether)
Solubility in Water: PARTLY SOLUBLE
Bulk Density at 20°C: Not Determined
Molecular Weight: Mixture
Specific Gravity (H20=1): Not Determined
Viscosity: Not Determined.
Evaporation Rate: Not Determined
VOC Content(%): Not determined.
Decomposition Temperature: Not Determined

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.
Conditions to Avoid: Keep away from heat,sparks and flame. Avoid any source of ignition. Do not expose to heat or store at temperatures above 120 F.
Materials to Avoid: Contact with oxidizing agents. Concentrated oxygen. Nitric acid. Avoid contact with chlorine in the presence of light.
Hazardous Decomposition Products: Carbon monoxide. and other asphxiants. Explosive peroxides. Will react with nitric acid to form explosive nitrates.
Hazardous Polymerization: WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Component	Route	Species	Dose
Ethyl Ether 60-29-7	Inhalation	Mice	LC50 31000 ppm/30M
Heptane 142-82-5	Inhalation	Rats	LC50 103 gm/m^3/4H
Propane 74-98-6	NA	NA	Not known.

Trade Name: Johnsens Premium Starting Fluid 50%
MSDS NO. 6732
Revision Date: 26-06-2012
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Component	Route	Species	Dose
Carbon Dioxide 124-38-9	NA	NA	Not known.
Iso-Butane 75-28-5	Inhalation	Rats	LC50 57 pph/15M
Lubricating Oil 64742-52-5	NA	NA	Not known.

Carcinogenicity:

Component	IARC	NTP	OSHA
Ethyl Ether 60-29-7	Not Listed	Not Listed	Not Listed
Heptane 142-82-5	Not Listed	Not Listed	Not Listed
Propane 74-98-6	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	Not Listed	Not Listed	Not Listed

12. ECOLOGICAL INFORMATION

Remarks: Ecological testing has not been conducted on this product.

13. DISPOSAL CONSIDERATION

Waste Classification: Residues and spilled material are hazardous waste due to ignitability.
Waste Management: Not determined.
Disposal Method: Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT:
Proper Shipping Name: Limited Quantity
Hazard Class: Not Applicable
UN/NA Number: Not Applicable
DOT Packing Group: Not Applicable

IMDG:
Proper Shipping Name: Aerosols
Hazard Class: 2
Hazard Subclass: 2.1
UN No.: UN 1950
Packing Group: Not Applicable
Marine Pollutant: No

15. REGULATORY INFORMATION

US Federal Regulations:

Component	SARA 313	SARA 302	TPQ	RQ

MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens Premium Starting Fluid 50%
MSDS NO. 6732
Revision Date: 26-06-2012
Date Printed 26-06-2012

Component	SARA 313	SARA 302	TPQ	RQ
Ethyl Ether 60-29-7	Not Listed	Not Listed	Not Listed	Not Listed
Heptane 142-82-5	Not Listed	Not Listed	Not Listed	Not Listed
Propane 74-98-6	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	Not Listed	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	Not Listed	Not Listed	Not Listed	Not Listed

US OSHA HEALTH CLASSIFICATION: Hazardous per OSHA 29 CFR 1910.1200
SARA 311/312 Hazard Catagories: Immediate/Acute, Delayed/Chronic, Fire

State Regulations:

Component	California Prop. 65 Cancer list	California - Prop 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Ethyl Ether 60-29-7	Not Listed	Not Listed	Not Listed	Not Listed
Heptane 142-82-5	Not Listed	Not Listed	Not Listed	Not Listed
Propane 74-98-6	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	Not Listed	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	Not Listed	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	Not Listed	Not Listed	Not Listed	Not Listed

Component	New Jersey Right-to-Know List:
Ethyl Ether 60-29-7	Substance no. 0701 Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430
Heptane 142-82-5	Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430 Substance no. 1339

Trade Name: Johnsens Premium Starting Fluid 50%
MSDS NO. 6732
Revision Date: 26-06-2012
Date Printed 26-06-2012

Propane 74-98-6	Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430 Substance no. 1594
Carbon Dioxide 124-38-9	Substance no. 0343
Iso-Butane 75-28-5	Substance no. 2422 Substance no. 2423 Substance no. 2425 Substance no. 2426 Substance no. 2427 Substance no. 2428 Substance no. 2429 Substance no. 2430 Substance no. 1040

U.S. TSCA: The components of this product are listed on the TSCA Inventory.
Canadian Inventory: The components of this product are listed on the Canadian DSL or NDSL Inventory.

Consumer Product Safety Improvement Act of 2008 General Conformity Certification

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

16. OTHER INFORMATION

General Notes: Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.
Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

Safety Data Sheet

Material Name: Kerosene K1 and K2

SDS No. 0290
US GHS

Synonyms: K-1 and K-2 Kerosene; Kero; Kerosene Motor Fuel; Tax Exempt Kerosene; #1 Diesel; #1 Distillate; Dyed Kerosene

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 3
Skin Corrosion/Irritation – Category 2
Eye Damage/Irritation – Category 2B
Carcinogenicity – Category 2
Specific Target Organ Toxicity (Single Exposure) – Category 3 (respiratory irritation, narcosis)
Aspiration Hazard - Category 1

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Flammable liquid and vapor.
Causes skin irritation.
Causes eye irritation.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.

Response
In case of fire: Use water spray, fog or foam.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If exposed or concerned: Get medical advice/attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.
IF SWALLOWED: Immediately call a poison center or doctor/physician. Do NOT induce vomiting.

Storage
Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
8008-20-6	Kerosene	100
91-20-3	Naphthalene	0.04

A complex combination of hydrocarbons including naphthenes, paraffins, and aromatics.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities

Keep away from strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Kerosene (8008-20-6)

ACGIH: 200 mg/m3 TWA (application restricted to conditions in which there are negligible aerosol exposures, total hydrocarbon vapor)
Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH: 100 mg/m3 TWA

Naphthalene (91-20-3)

ACGIH: 10 ppm TWA
15 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 10 ppm TWA; 50 mg/m3 TWA
NIOSH: 10 ppm TWA; 50 mg/m3 TWA
15 ppm STEL; 75 mg/m3 STEL

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Pale yellow to water-white. May be dyed red.	**Odor:**	Characteristic petroleum distillate odor
Physical State:	Liquid	**pH:**	ND
Vapor Pressure:	0.4 mm Hg @ 68 °F (20 °C)	**Vapor Density:**	AP 4.5
Boiling Point:	300 to 580 °F (149 to 304 °C)	**Melting Point:**	ND
Solubility (H2O):	Negligible	**Specific Gravity:**	0.784-0.834
Evaporation Rate:	Slow; varies with conditions	**VOC:**	ND
Percent Volatile:	100%	**Octanol/H2O Coeff.:**	ND
Flash Point:	>100 °F (38 °C)	**Flash Point Method:**	TCC
Upper Flammability Limit (UFL):	5.0	**Lower Flammability Limit (LFL):**	0.7
Burning Rate:	ND	**Auto Ignition:**	410°F (210°C)

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers such as nitric and sulfuric acids.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Kerosene (8008-20-6)

Inhalation LC50 Rat >5.28 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m3 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild to moderate irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

Dermal carcinogenicity: positive - mice
Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

B: Component Carcinogenicity

Kerosene (8008-20-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Naphthalene (91-20-3)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]
96 Hr LC50 Pimephales promelas	1.99 mg/L [static]
96 Hr LC50 Lepomis macrochirus	31.0265 mg/L [static]
72 Hr EC50 Skeletonema costatum	0.4 mg/L
48 Hr LC50 Daphnia magna	2.16 mg/L
48 Hr EC50 Daphnia magna	1.96 mg/L [Flow through]
48 Hr EC50 Daphnia magna	1.09 - 3.4 mg/L [Static]

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

Shipping Name: Kerosene

UN #: 1223 **Hazard Class:** 3 **Packing Group:** III

Placard:

* * * Section 15 - Regulatory Information * * *

Regulatory Information

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA Section 311/312 – Hazard Classes

Acute Health	Chronic Health	Fire	Sudden Release of Pressure	Reactive
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the de minimis levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right- To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Kerosene	8008-20-6	No	Yes	No	Yes	Yes	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

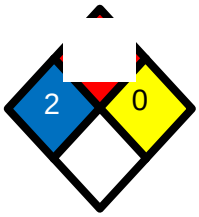
Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Kerosene	8008-20-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

NFPA® Hazard Rating

Health	2
Fire	2
Reactivity	0



HMIS® Hazard Rating

Health	2*	Moderate
Fire	2	Moderate
Physical	0	Minimal
		*Chronic

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

SAFETY DATA SHEET
Klean Strip Aircraft Decal & Adhesive Remover

Printed: 04/17/2015
Revision: 04/17/2015
Supersedes Revision: 03/20/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean Strip Aircraft Decal & Adhesive Remover

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Web site address: www.wmbarr.com

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892

Intended Use: Lifts decals and adhesive residue from automotive finishes, glass, chrome or metal bumpers.

Synonyms: EAD908

Additional Information This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

2. HAZARDS IDENTIFICATION

Flammable Aerosols, Category 1
Gas Under Pressure, Liquefied gas
Acute Toxicity: Oral, Category 4
Acute Toxicity: Skin, Category 4
Acute Toxicity: Inhalation, Category 4
Serious Eye Damage/Eye Irritation, Category 2A
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 2
Specific Target Organ Toxicity (single exposure), Category 1
Aspiration Toxicity, Category 1
Simple Asphyxiant

GHS Signal Word: **Danger**

GHS Hazard Phrases:
H223: Flammable aerosol.
H280: Containers gas under pressure; may explode if heated.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H312: Harmful in contact with skin.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H340: May cause genetic defects.
H351: Suspected of causing cancer.
H370: Causes damage to organs.

GHS Precaution Phrases:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211: Do not spray on an open flame or any other ignition source.
P251: Pressurized container: Do not pierce or burn, even after use.
P260: Do not breathe gas/mist/vapors/spray.

P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective equipment as required.

GHS Response Phrases:

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+311: IF exposed: Call a POISON CENTER or doctor/physician.
P308+313: IF exposed or concerned: Get medical attention/advice.
P330: Rinse mouth.
P331: Do NOT induce vomiting.
P337+313: If eye irritation persists, get medical advice/attention.
P363: Wash contaminated clothing before reuse.

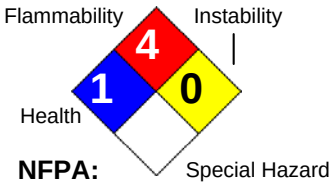
GHS Storage and Disposal Phrases:

P405: Store locked up.
P410+403: Protect from sunlight and store in well-ventilated place.
P412: Do not expose to temperatures exceeding 50 ºC/122 ºF.
P501: Dispose of contents/container according to local, state and federal regulations.

Hazard Rating System:

HMIS:

HEALTH	*	2
FLAMMABILITY		4
PHYSICAL		1
PPE		X



NFPA:

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic): This product has not been tested as a whole to determine health effects. The health effects listed below are associated with the individual ingredients listed in Section 3.

EYES: Causes eye irritation. May cause pain, a burning sensation, watering, redness, change in vision, and eye damage.

SKIN: Causes skin irritation. May cause redness, itching, and drying and cracking of the skin. Prolonged or repeated skin contact may cause drying and cracking of the skin and possible skin burns. May be absorbed through the skin with possible systemic effects.

INHALATION: May cause irritation to the nose, throat, and respiratory tract. Concentrations above the TLV may cause headache, dizziness, nausea, shortness of breath, and vomiting. Higher concentrations may cause central nervous system depression and unconsciousness, nasal discharge, hoarseness, coughing, chest pain, and breathing difficulty.

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.

INGESTION: May cause nausea, vomiting, loss of appetite, gastrointestinal irritation, diarrhea, central nervous system depression, and headache. Aspiration into lungs can cause severe lung damage, which can be fatal. May cause leg pain, pain in the abdomen and lower back, visual impairment, including blindness, coma, and death.

TARGET ORGANS: eyes, central nervous system, skin, respiratory tract, gastrointestinal system

PRIMARY ROUTES OF ENTRY: skin, eyes, inhalation, ingestion

Medical Conditions Generally Aggravated By Exposure: Diseases of the skin, eyes, and respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	55.0 -65.0 %	EL6475000
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	15.0 -20.0 %	PC1400000
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	<20.0 %	NA
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	2.0 -7.0 %	DC3325000
620-14-4	Benzene, 1-Ethyl-3-methyl- {3-Ethyltoluene}	2.0 -4.0 %	NA
108-67-8	Mesitylene {1,3,5-Trimethylbenzene}	1.0 -2.0 %	OX6825000
611-14-3	Benzene, 1-Ethyl-2-methyl- {2-Ethyltoluene}	0.6 -1.8 %	XT2500000
622-96-8	Benzene, 1-Ethyl-4-methyl- {4-Ethyltoluene}	0.6 -1.8 %	XT2550000
526-73-8	1,2,3-Trimethylbenzene	0.6 -1.4 %	DC3300000
103-65-1	Benzene, Propyl- {N-Propylbenzene}	0.6 -1.4 %	DA8750000
95-47-6	o-Xylene {Benzene, o-Dimethyl-}	0.4 -1.2 %	ZE2450000
98-82-8	Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}	0.04 -0.2 %	GR8575000

Additional Chemical Information Specific percentage of composition is being withheld as a trade secret.

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation develops or persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes. Seek medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a

	physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.
Signs and Symptoms Of Exposure:	See Potential Health Effects.
Note to Physician:	This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis.

5. FIRE FIGHTING MEASURES

	Level 3 Aerosol
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Autoignition Pt:	No data.
Suitable Extinguishing Media:	Use carbon dioxide, dry powder, or foam.
Unsuitable Extinguishing Media:	None known.
Fire Fighting Instructions:	Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from containers that have been exposed to intense heat or flame.
Flammable Properties and Hazards:	Danger! Flammable! Keep away from heat, sparks, flame, and all other sources of ignition. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition during use and until all vapors are gone. Beware of static electricity that may be generated by synthetic clothing and other sources. Contents under pressure. Do not puncture, incinerate or store above 120 degrees F. Exposure to heat or prolonged exposure to sun may cause bursting. FLASHPOINT OF LIQUID CONCENTRATE: 20 degrees Fahrenheit FLASHPOINT OF PROPELLANT: -142 degrees Fahrenheit

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:	Vapors may cause flash fire or ignite explosively. Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc. Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable. Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

A source of clean water should be available in the work area for flushing eyes and skin.

Precautions To Be Taken in Storing:

STORAGE
Store as a Level 3 Aerosol (NFPA 30B)

Replace overcap on container after each use. Store in a cool, dry place. Do not store near flames or at elevated temperatures. Do not expose to temperatures above 120 degrees Fahrenheit. Exposure to heat or prolonged exposure to sun can cause bursting.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	PEL: 200 ppm	TLV: 200 ppm STEL: 300 ppm	No data.
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	No data.	No data.	No data.
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	No data.	No data.	No data.
620-14-4	Benzene, 1-Ethyl-3-methyl- {3-Ethyltoluene}	No data.	No data.	No data.
108-67-8	Mesitylene {1,3,5-Trimethylbenzene}	No data.	No data.	No data.
611-14-3	Benzene, 1-Ethyl-2-methyl- {2-Ethyltoluene}	No data.	No data.	No data.
622-96-8	Benzene, 1-Ethyl-4-methyl- {4-Ethyltoluene}	No data.	No data.	No data.
526-73-8	1,2,3-Trimethylbenzene	No data.	No data.	No data.
103-65-1	Benzene, Propyl- {N-Propylbenzene}	No data.	No data.	No data.
95-47-6	o-Xylene {Benzene, o-Dimethyl-}	PEL: 100 ppm	TLV: 100 ppm STEL: 150 ppm	No data.
98-82-8	Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}	PEL: 50 ppm	TLV: 50 ppm	No data.

Respiratory Equipment (Specify Type):	For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV. A dust mask does not provide protection against vapors.
Eye Protection:	Chemical splash goggles, or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Chemical goggles or face shields are recommended when splashing or spraying of chemical is possible. A faceshield provides more protection to help reduce chemical contact to the face and eyes.
Protective Gloves:	Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile and natural rubber provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.
Other Protective Clothing:	Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons to minimize exposure.
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.
Work/Hygienic/Maintenance Practices:	Wash hands thoroughly after use and before eating, drinking, or smoking. Do not eat, drink, or smoke in the work area. Discard any clothing or other protective equipment that cannot be decontaminated. Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[X] Gas [X] Liquid [ ] Solid
Appearance and Odor:	No data available.
Melting Point:	No data.
Boiling Point:	148.00 F - 482.00 F
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	0.82
Density:	6.79 LB/GL at 75.0 F

Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate:	< 1
Solubility in Water:	No data.
Percent Volatile:	>= 98.0 % by weight.
VOC / Volume:	98.9000 % WT

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	Oxidizing materials, caustics, amines, ammonia, strong bases, chloroform, chlorosulfonic acid, oleum, hydrogen peroxide, nitric acid, sulfuric acid, strong inorganic acids, and reactive metals.
Hazardous Decomposition Or Byproducts:	Thermal Decomposition may produce carbon monoxide, carbon dioxide, and unidentified organic compounds in black smoke.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: This product has not been tested as a whole. Refer to section 2 for acute and chronic effects.

Carcinogenicity/Other Information:

CAS# 78-93-3:
Standard Draize Test, Eyes, Human, 350.0 PPM.
Result:
Behavioral: Anticonvulsant.
- Journal of Industrial Hygiene and Toxicology, Vol/p/yr: 25,282, 1943

IARC 2B - Possibly Carcinogenic to Humans

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	n.a.	n.a.	n.a.	n.a.
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	n.a.	n.a.	n.a.	n.a.
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	n.a.	n.a.	n.a.	n.a.
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	n.a.	n.a.	n.a.	n.a.
620-14-4	Benzene, 1-Ethyl-3-methyl- {3-Ethyltoluene}	n.a.	n.a.	n.a.	n.a.
108-67-8	Mesitylene {1,3,5-Trimethylbenzene}	n.a.	n.a.	n.a.	n.a.
611-14-3	Benzene, 1-Ethyl-2-methyl- {2-Ethyltoluene}	n.a.	n.a.	n.a.	n.a.
622-96-8	Benzene, 1-Ethyl-4-methyl- {4-Ethyltoluene}	n.a.	n.a.	n.a.	n.a.
526-73-8	1,2,3-Trimethylbenzene	n.a.	n.a.	n.a.	n.a.
103-65-1	Benzene, Propyl- {N-Propylbenzene}	n.a.	n.a.	n.a.	n.a.
95-47-6	o-Xylene {Benzene, o-Dimethyl-}	n.a.	n.a.	A4	n.a.
98-82-8	Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}	n.a.	2B	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information: This product has not been tested as a whole.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Aerosols, flammable
DOT Hazard Class: 2.1 FLAMMABLE GAS
UN/NA Number: UN1950

Additional Transport Information: The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	No	Yes 5000 LB	No
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	No	Yes 5000 LB	Yes
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	No	No	No
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	No	No	Yes
620-14-4	Benzene, 1-Ethyl-3-methyl- {3-Ethyltoluene}	No	No	No
108-67-8	Mesitylene {1,3,5-Trimethylbenzene}	No	No	No
611-14-3	Benzene, 1-Ethyl-2-methyl- {2-Ethyltoluene}	No	No	No
622-96-8	Benzene, 1-Ethyl-4-methyl- {4-Ethyltoluene}	No	No	No
526-73-8	1,2,3-Trimethylbenzene	No	No	No
103-65-1	Benzene, Propyl- {N-Propylbenzene}	No	No	No
95-47-6	o-Xylene {Benzene, o-Dimethyl-}	No	Yes 1000 LB	Yes
98-82-8	Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}	No	Yes 5000 LB	Yes

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[X] Yes [ ] No	Acute (immediate) Health Hazard
	[X] Yes [ ] No	Chronic (delayed) Health Hazard
	[X] Yes [ ] No	Fire Hazard
	[X] Yes [ ] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
78-93-3	Methyl ethyl ketone {MEK; 2-Butanone}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
67-56-1	Methanol {Methyl alcohol; Carbinol; Wood alcohol}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes
68476-86-8	Liquified petroleum gas, sweetened {propane, isobutane, n-butane}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
620-14-4	Benzene, 1-Ethyl-3-methyl- {3-Ethyltoluene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
108-67-8	Mesitylene {1,3,5-Trimethylbenzene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
611-14-3	Benzene, 1-Ethyl-2-methyl- {2-Ethyltoluene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
622-96-8	Benzene, 1-Ethyl-4-methyl- {4-Ethyltoluene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
526-73-8	1,2,3-Trimethylbenzene	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8D TERM; CA PROP.65: No
103-65-1	Benzene, Propyl- {N-Propylbenzene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 12(b); CA PROP.65: No
95-47-6	o-Xylene {Benzene, o-Dimethyl-}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
98-82-8	Cumene {Benzene, 1-Methylethyl-; Isopropylbenzene}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes

16. OTHER INFORMATION

Revision Date: 04/17/2015

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

SAFETY DATA SHEET
Klean-Strip Boiled Linseed Oil

Printed: 04/16/2015
Revision: 04/16/2015
Supersedes Revision: 03/26/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean-Strip Boiled Linseed Oil

Reference #: 1660C

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Web site address: www.wmbarr.com

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892

Intended Use: Wood finish and natural protectant

Synonyms: GLO45, QLO45, CLO45

Additional Information This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

2. HAZARDS IDENTIFICATION

Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2A

GHS Signal Word: **Warning**

GHS Hazard Phrases:
H315: Causes skin irritation.
H319: Causes serious eye irritation.

GHS Precaution Phrases:
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P362+364: Take off contaminated clothing and wash it before reuse.

GHS Response Phrases:
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment see label.
P332+313: If skin irritation occurs, get medical advice/attention.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.

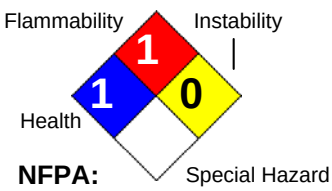
GHS Storage and Disposal Phrases: No phrases apply.

Hazard Rating System:

HMIS:

HEALTH	1
FLAMMABILITY	1
REACTIVITY	
PPE	C

NFPA:



Potential Health Effects (Acute and Chronic):

INHALATION ACUTE EXPOSURE EFFECTS:
May cause irritation of respiratory tract, and cough.

SKIN CONCTACT ACUTE EXPOSURE EFFECTS:
None known.

EYE CONTACT ACUTE EXPOSURE EFFECTS:
May cause irritation.

INGESTION ACUTE EXPOSURE EFFECTS:
Inedible -- not to be taken internally. May cause nausea, vomiting, and diarrhea.

CHRONIC EXPOSURE EFFECTS:
None known.

Medical Conditions Generally Aggravated By Exposure: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
68553-15-1	Linseed oil, cobalt manganese salt {Linseed oil, manganese and cobalt driers}	100.0 %	NA

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

INHALATION:
If user experiences breathing difficulty, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SKIN CONTACT:
wash with soap and water.

EYE CONTACT:
Flush eye with water for at least 15 minutes. Get immediate medical attention.

INGESTION:
Call your poison control center, hospital emergency room, or physician immediately for instructions.

Signs and Symptoms Of Exposure: See Potential Health Effects.

5. FIRE FIGHTING MEASURES

IIIB

Flash Pt: 210.00 F

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: > 651.00 F

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or foam.

Fire Fighting Instructions: Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards: RISK OF FIRE FROM SPONTANEOUS COMBUSTION EXISTS WITH THIS PRODUCT.

Flammability Classification:

Oily rags, waste, and other oily materials can cause spontaneous combustion fires if not handled properly. Immediately after use, and before disposal or storage, you MUST (1) Spread out all oily materials outside to dry by flattening them out to their full size in an airy spot for 24 hours at temperatures above 40 degrees F, or (2) Wash them thoroughly with water and detergent and rinse. Repeat until you have removed all oil from all clothes, tools, rags, paper, clothing, mops, and any other materials contacted during use or as a result of an accidental spill. Make certain all wash and rinse water is disposed of properly.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Keep unneccessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut of ignition sources; keep flares, smoking or flames out of hazard area.

Small Spills: take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large Spills: dike far ahead of spill for later disposal.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing:

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
68553-15-1	Linseed oil, cobalt manganese salt {Linseed oil, manganese and cobalt driers}	No data.	No data.	No data.

Respiratory Equipment (Specify Type):

For occasional consumer use - Use with adequate ventilation to prevent a build-up of vapors in confined areas. Open windows or position fans to provide cross ventilation. If a mild to strong odor is noticeable, ventilation is not adequate.

For OSHA controlled workplace and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLVs.

For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirators. A dust mask does not provide protection against vapors.

Eye Protection:

Safety glasses, chemical goggles, or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves:

Wear impermeable gloves. Gloves contaminated with product should be discarded. Follow disposal procedures as described in Section 5 and Section 7.

Other Protective Clothing:	Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.
Engineering Controls (Ventilation etc.):	Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.
Work/Hygienic/Maintenance Practices:	A source of clean water should be available in the work area for flushing of eyes and skin. Clothing that becomes soiled with product should be removed as soon as possible and laundered separately. Follow procedures outlined in Section 7, Handling and Storage. Wash hands thoroughly after use and before eating, drinking, or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Clear Amber
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	> 651.00 F
Flash Pt:	210.00 F
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	0.93 at 77.0 F
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	Incompatible with strong oxidizing agents.
Hazardous Decomposition Or Byproducts:	Decomposition may produce carbon monoxide and carbon dioxide.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: Refer to section 2 for acute and chronic effects.

CAS# 68553-15-1:
Standard Draize Test, Skin, Human, 300.0 MG, 3 D, Moderate.
Result:
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Ear: Changes in cochlear structure or function.
Nutritional and Gross Metabolic:Weight loss or decreased weight gain.
- Cutaneous Toxicity, Proceedings of the 3rd Conference, 1976, D, V.A., and P. L, New York, Academic Press, Inc., London United Kingdom, Vol/p/yr: -,127, 1977

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
68553-15-1	Linseed oil, cobalt manganese salt {Linseed oil, manganese and cobalt driers}	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated by 49 CFR
DOT Hazard Class:
UN/NA Number:

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
68553-15-1	Linseed oil, cobalt manganese salt {Linseed oil, manganese and cobalt driers}	No	No	Yes-Cat. N096,

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[X] Yes [ ] No	Acute (immediate) Health Hazard
	[ ] Yes [X] No	Chronic (delayed) Health Hazard
	[ ] Yes [X] No	Fire Hazard
	[ ] Yes [X] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
68553-15-1	Linseed oil, cobalt manganese salt {Linseed oil, manganese and cobalt driers}	CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

16. OTHER INFORMATION

Revision Date: 04/16/2015
Preparer Name: W.M. Barr EHS Dept (901)775-0100
Additional Information About This Product: No data available.
Company Policy or Disclaimer: The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of

any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Kleen-Tech

MSDS# KLEEN-TECH

March 2012 5 pages

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Kleen-Tech Green Coil Cleaner
Manufacturer:
Diversitech Corp.
6650 Sugarloaf Parkway, Duluth, GA, 30097
EMERGENCY Phone No.: 1 + 800.255.3924 Chem-Tel (Chemical Emergencies)
Phone (For Information): 1 + 678.542.3600
Date Prepared: 3/19/2012
Prepared By: A. Jernigan

2. HAZARDS IDENTIFICATION

Irritant
Inhalation: Effects from inhalation of mists and vapors vary from mild to moderate irritation of the upper respiratory tract, depending on severity of exposure. Abusive or excessive inhalation of vapors may cause irritation to the upper respiratory tract, dizziness, nausea and other central nervous system effects.
Ingestion: Swallowing can cause gastro-intestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis. Minimal toxicity.
Skin Contact: Frequent or prolonged contact may cause irritation.
Eye Contact: May cause pain and moderate irritation of eyes.
Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the product.
Other components: *Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.*
Additional information: *For the wording of the listed risk phrases refer to section 15.*

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO	EINECS NO	%	Haz Symbol	Risk Phrases
Water	7732-18-5		80-90		
2-Butoxyethanol	111-76-2	203-905-0	1-5	Xn, Xi	R20/21/22
Sodium silicate	1344-09-8	215-687-4	<1	Not classified	R36, R38
Tetrasodium EDTA	64-02-8	200-573-9	<1	Xn, Xi	R22, R41

See Section 15 for a full explanation of risk phrases.

Kleen-Tech

4. FIRST AID MEASURES
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing stops, give artificial respiration. Call a physician.
Ingestion: DO NOT INDUCE VOMITING! Drink 2-3 glasses of water of or milk, and call the nearest poison control center.
Skin Contact: Wash with soap and water. Rinse with copious amounts of fresh, running water. If Irritation persists, get medical attention.
Eye Contact: Immediately flush eyes with large amounts of cool running water for at least 15 minutes while holding eyelids open. If irritation persists, get medical attention immediately.

5. FIREFIGHTING MEASURES
Flash Point: None
Fire Extinguishing Media: Use foam, CO2, dry chemical or other media suitable for the primary source of the fire.
Special Information: This product is non-flammable. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Cool fire-exposed containers with a water spray.
Unusual Fire and Explosion Hazards: None.

6. SPILL/ACCIDENTAL RELEASE MEASURES
Remove contaminated clothing immediately. Keep unnecessary and unprotected people away from area of spill. Ventilate area of leak or spill. Contain and absorb liquid with clay, vermiculite or other inert substance, sweep up and package in a container suitable for disposal. Wash away residues with water. Dispose of absorbed material in accordance with Federal, local and state regulations.

7. HANDLING AND STORAGE
Protect from physical damage. Store in a cool, dry, ventilated area. Keep this and all chemicals out of the reach of children. Wash hands thoroughly after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Airborne Exposure Limits:
OSHA Permissible Exposure Limit (PEL): 50ppm (skin) for 2-butoxyethanol
ACGIH Threshold Limit Value (TLV): 20ppm (butoxyethanol)
Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.
Personal Respirators: Not required for normal use in accordance with label directions.
Skin Protection: Use rubber, neoprene or nitrile gloves to minimize skin contact.
Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. A source of running water or other eyewash provisions should be nearby.
Work Hygienic Practices: Use proper industrial hygiene practices and follow label instructions to minimize hazardous exposure. Wash hands after handling this material, and before eating or smoking.

Kleen-Tech

9. PHYSICAL AND CHEMICAL PROPERTIES
Boiling Point: >220°F
Specific gravity (H_2O = 1):1.02
Vapor pressure (mm Hg): Same as water
Vapor Density (Air = 1): >1
Evaporation Rate (Water = 1): >1
VOC Content: <2%
Solubility in water: Water miscible
pH @ 25°C: 11
Appearance: Clear green liquid
Odor: Mild glycol ether odor

10. STABILITY AND REACTIVITY
Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen sulfide, Sulfur dioxide
Hazardous Polymerization: Will not occur.
Incompatibilities: Avoid contact with strong oxidizing agents, strong alkalis and strong acids.
Conditions to Avoid: Incompatibles.

11. TOXICOLOGICAL INFORMATION
NTP Carcinogen: No
Toxicological data: There is no data available on the product itself.
Acute toxicity: Ingestion may cause nausea and vomiting. Inhalation of high vapor concentrations can cause irritation of the mucous membrane and the respiratory system. Symptoms include headaches, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss of consciousness.
Corrosivity/irritation: Irritating to eyes. Prolonged contact with skin may cause irritation.

12. ECOLOGICAL INFORMATION
Mobility: Final destination of reacted products is water. Readily adsorbed into soil.
Degradability: Biodegradable.
Bioaccumulative potential: No bioaccumulation potential based on available literature.
Other adverse effects: Concentrated product is moderately harmful to aquatic organisms.
Biodegradation Data:

Material	**Percentage**	**CAS #**		
Sodium LAS	1-5%	25155-30-0	246-680-4	No data found.
Polyethylene glycol monotridecyl ether	<1%	24938-91-8	N.A.	No data found.

Analogous compounds are readily biodegradable

Kleen-Tech

13. DISPOSAL CONSIDERATIONS
Dispose of spill-clean up and other wastes in accordance with Federal, State, and local regulations. Whatever cannot be saved by recovery should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. Empty containers of this material, properly rinsed with water, pose no disposal hazard and may be recycled. State and local disposal regulations may differ from federal disposal regulations.

14. TRANSPORT INFORMATION
UN Number: None
UN Proper Shipping Name: None
Transport Hazard Class(es): Packing group: None
Environmental Hazards:
ADR/RID Transport Information Not dangerous for transport under ADR/RID, IMO and IATA/ICAO regulations.
ADR/RID Class None Allocated
ADR/RID Packing Group None Allocated
IMDG Hazard Class None Allocated
IMDG Packing Group None Allocated
ADNR Class None Allocated
ADNR Item None Allocated
IATA Hazard Class None Allocated
IATA Packing Group None Allocated
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION
EC Classification:

Irritant
Risk phrases:
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed
R36: Irritating to eyes.
R37: Irritating to respiratory system
R38: Irritating to skin.
R41: Risk of serious damage to eyes
Safety phrases:
S2: Keep out of reach of children
S23: Do not breathe fumes, vapor or spray
S24: Avoid contact with skin.
S25: Avoid contact with eyes.

Federal, State & International Regulations
U.S. REGULATIONS:

Kleen-Tech

US EPA:
Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release quantities of Hazardous Substances is not required for this material.
Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on threshold planning quantities and release reporting based on reportable quantities in 40 CFR 355 (used for SARA 302, 304, 311, and 312) is not required for quantities below 250 pounds.
Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This material is not subject to reporting requirements.
Toxic Substances Control Act (TSCA) Status: The ingredients of this product are on the TSCA inventory.
State Right to Know
California Proposition 65: Not subject to reporting requirements under Prop 65
Massachusetts: Hazardous substances and extraordinarily hazardous substances must be identified.
Pennsylvania: Hazardous substances must be identified.
California SCAQMD Rule 443.1 (VOC's): <2%
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No Reactivity: No
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.
CANADA INVENTORY (DSL/NDSL): All components of this product are listed on the DSL.

16. OTHER INFORMATION
NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0
Label Hazard Warning:
Caution! Avoid contact with eyes or prolonged contact with skin
Label Precautions:
Do not use this product until you have read all warning statements on the bottle and consulted the MSDS. Use only according to label directions.
For use by trained professional only.
Wear protective goggles and gloves.
Wash thoroughly after use.
KEEP OUT OF REACH OF CHILDREN
Label First Aid:
Eye Contact: Flush with flowing water for 15 minutes. If irritation persists, get medical attention.
If Swallowed: Drink 3-4 large glasses of water followed by citrus juice. Get medical attention immediately.
Skin Contact: Wash with soap and water. If irritation persists, get medical attention.
Inhalation: Remove person to fresh air. If breathing has not returned to normal within a few minutes, get medical attention.
FOR HEALTH, SAFETY, AND TRANSPORTATION INFORMATION, CALL 1-800-255-3924.

SAFETY DATA SHEET

1818

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
International Harvester Red

Product code : 1818

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13.6%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	37.68	67-64-1
Propane	13.6	74-98-6
Methyl Ethyl Ketone	10.69	78-93-3
Xylene	7.7	1330-20-7
1-Methoxy-2-Propanol Acetate	6.48	108-65-6
Butane	6.4	106-97-8
Methyl Isobutyl Ketone	3.41	108-10-1
Ethylbenzene	1.36	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
1-Methoxy-2-Propanol Acetate	**AIHA WEEL (United States, 10/2011).** TWA: 50 ppm 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.

Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketone	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.

	CA Ontario Provincial (Canada, 7/2015). TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.76

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 28.52 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
1-Methoxy-2-Propanol Acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Section 11. Toxicological information

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Isobutyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (gases)	11188.9 mg/kg 56129.7 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
1-Methoxy-2-Propanol Acetate	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 14. Transport information

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

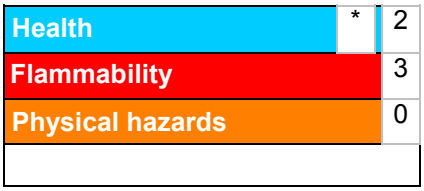
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 9/23/2016

Date of issue/Date of revision : 9/23/2016

Date of previous issue : 9/7/2016

Version : 4.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient

Section 16. Other information

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1818

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
International Harvester Red

Product code : 1818

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13.6%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - ≤50	67-64-1
Propane	≥10 - ≤25	74-98-6
Methyl Ethyl Ketone	≥10 - ≤25	78-93-3
Xylene	≤10	1330-20-7
Butane	≤10	106-97-8
Methyl Isobutyl Ketone	≤5	108-10-1
Ethylbenzene	≤3	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.

	NIOSH REL (United States, 10/2013). TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.76

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 28.52 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Isobutyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (gases)	11193 mg/kg 56150.4 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** Not Applicable **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** F-D, S-U **Special provisions** LIMITED QUANTITY

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

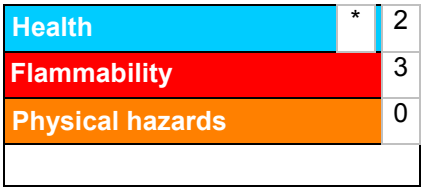
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 4/6/2016

Date of issue/Date of revision : 4/6/2016

Date of previous issue : 3/27/2016

Version : 2.01

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1818

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
International Harvester Red

Product code : 1818

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13.6%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - <50	67-64-1
Propane	≥10 - <25	74-98-6
Methyl Ethyl Ketone	≥10 - <25	78-93-3
Xylene	≥5 - <10	1330-20-7
Butane	≥5 - <10	106-97-8
Methyl Isobutyl Ketone	≥3 - <5	108-10-1
Ethylbenzene	≥1 - <3	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).**

	TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.76

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 28.52 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Isobutyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (gases)	11193 mg/kg 56150.4 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** (ERG#126) **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Section 14. Transport information

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

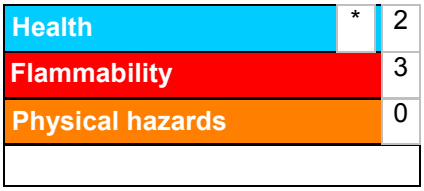
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
Flam. Aerosol 1, H222	On basis of test data
Press. Gas Comp. Gas, H280	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method

History

Date of printing : 11/29/2015

Date of issue/Date of revision : 11/29/2015

Section 16. Other information

Date of previous issue : 11/5/2015

Version : 1.05

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 16.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	35.02	67-64-1
Propane	13.61	74-98-6
Methyl Ethyl Ketone	12.21	78-93-3
1-Methoxy-2-Propanol Acetate	8.43	108-65-6
Xylene	6.83	1330-20-7
Butane	6.4	106-97-8
Titanium Dioxide	2.63	13463-67-7
Ethylbenzene	1.24	100-41-4
1-Butanol	1.04	71-36-3
Unsaturated Fatty Acids	0.11	85711-46-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2016).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2016).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
1-Methoxy-2-Propanol Acetate	**AIHA WEEL (United States, 10/2011).** TWA: 50 ppm 8 hours.
Xylene	**ACGIH TLV (United States, 3/2016).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 6/2016).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2016).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes.

1-Butanol	**OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2016).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 6/2016).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.
Unsaturated Fatty Acids	None.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketone	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada,**

	5/2015). TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.58 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
1-Methoxy-2-Propanol Acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Section 11. Toxicological information

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	10854.3 mg/kg
Dermal	274973.6 mg/kg
Inhalation (gases)	61319 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
1-Methoxy-2-Propanol Acetate	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Section 14. Transport information

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

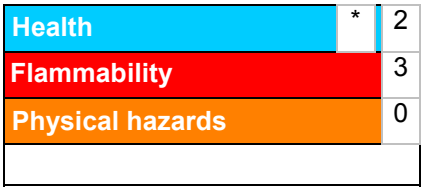
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Section 16. Other information

Date of printing : 12/23/2016

Date of issue/Date of revision : 12/23/2016

Date of previous issue : 9/23/2016

Version : 5

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

CAS # : Not applicable.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 16.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	35.02	67-64-1
Propane	13.61	74-98-6
Methyl Ethyl Ketone	12.21	78-93-3
1-Methoxy-2-Propanol Acetate	8.43	108-65-6
Xylene	6.94	1330-20-7
Butane	6.4	106-97-8
Titanium Dioxide	2.63	13463-67-7
Ethylbenzene	1.23	100-41-4
1-Butanol	1.04	71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
1-Methoxy-2-Propanol Acetate	**AIHA WEEL (United States, 10/2011).** TWA: 50 ppm 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes.

1-Butanol	**OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketone	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).**

	TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.57 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
1-Methoxy-2-Propanol Acetate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	8532 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Section 11. Toxicological information

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	10826.6 mg/kg
Dermal	274973.6 mg/kg
Inhalation (gases)	60377.7 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
1-Methoxy-2-Propanol Acetate	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Section 14. Transport information

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

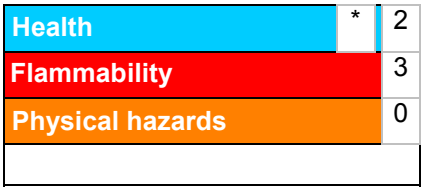
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 9/23/2016

Section 16. Other information

Date of issue/Date of revision : 9/23/2016

Date of previous issue : 9/7/2016

Version : 4.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 16.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	35.02	67-64-1
Propane	13.61	74-98-6
Methyl Ethyl Ketone	12.21	78-93-3
Xylene	6.94	1330-20-7
Butane	6.4	106-97-8
Titanium Dioxide	2.63	13463-67-7
Ethylbenzene	1.23	100-41-4
1-Butanol	1.04	71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours.

1-Butanol	TWA: 435 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketone	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.

	CA Ontario Provincial (Canada, 7/2015). TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.57 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (gases)	10832 mg/kg 275111.6 mg/kg 60408 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Section 14. Transport information

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

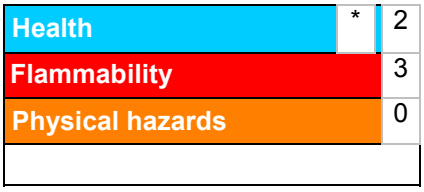
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 7/15/2016

Date of issue/Date of revision : 7/15/2016

Date of previous issue : 6/4/2016

Version : 3.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 16.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	35.02	67-64-1
Propane	13.61	74-98-6
Methyl Ethyl Ketone	12.21	78-93-3
Xylene	6.94	1330-20-7
Butane	6.4	106-97-8
Titanium Dioxide	2.63	13463-67-7
Ethylbenzene	1.23	100-41-4
1-Butanol	1.04	71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours.

1-Butanol	TWA: 435 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Methyl Ethyl Ketone	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 300 ppm 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 590 mg/m³ 8 hours. 15 min OEL: 885 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.

	CA Ontario Provincial (Canada, 7/2015). TWA: 200 ppm 8 hours. STEL: 300 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 150 mg/m³ 8 hours. STEV: 100 ppm 15 minutes. STEV: 300 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.57 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (gases)	10832 mg/kg 275111.6 mg/kg 60408 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Section 14. Transport information

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

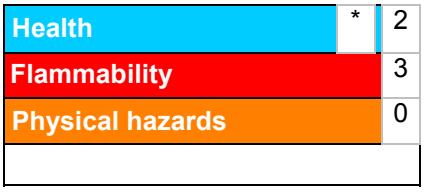
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 6/4/2016

Date of issue/Date of revision : 6/4/2016

Date of previous issue : 6/3/2016

Version : 3

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 16.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - ≤50	67-64-1
Propane	≥10 - ≤25	74-98-6
Methyl Ethyl Ketone	≥10 - ≤25	78-93-3
Xylene	≤10	1330-20-7
Butane	≤10	106-97-8
Titanium Dioxide	≤3	13463-67-7
Ethylbenzene	≤3	100-41-4
1-Butanol	≤3	71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours.

1-Butanol	TWA: 435 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.57 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (gases)	10832 mg/kg 275111.6 mg/kg 60408 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low
Titanium Dioxide	-	352	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** Not Applicable **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** F-D, S-U **Special provisions** LIMITED QUANTITY

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

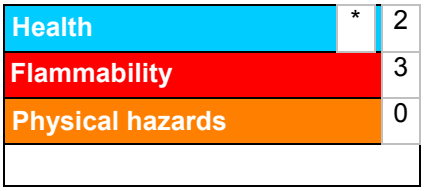
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 4/6/2016

Date of issue/Date of revision : 4/6/2016

Date of previous issue : 3/24/2016

Version : 2.02

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1816

Section 1. Identification

Product name : KRYLON® Farm & Implement Paint (Aerosol)
John Deere Yellow

Product code : 1816

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 13.6%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - <50	67-64-1
Propane	≥10 - <25	74-98-6
Methyl Ethyl Ketone	≥10 - <25	78-93-3
Xylene	≥5 - <10	1330-20-7
Butane	≥5 - <10	106-97-8
Titanium Dioxide	≥1 - <3	13463-67-7
Ethylbenzene	≥1 - <3	100-41-4
1-Butanol	≥1 - <3	71-36-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Ethylbenzene	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

1-Butanol	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 13.1%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.78

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.57 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Titanium Dioxide	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal Inhalation (gases)	11172.2 mg/kg 283751.2 mg/kg 62305 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
Xylene	-	-	Readily
Ethylbenzene	-	-	Readily
1-Butanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	-	8.1 to 25.9	low
Titanium Dioxide	-	352	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** (ERG#126) **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Section 14. Transport information

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

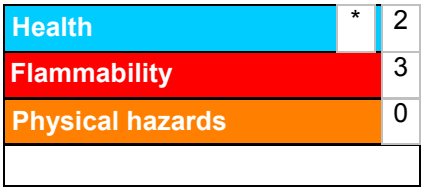
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
Flam. Aerosol 1, H222	On basis of test data
Press. Gas Comp. Gas, H280	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method

History

Date of printing : 11/25/2015

Date of issue/Date of revision : 11/25/2015

Section 16. Other information

Date of previous issue : 11/5/2015

Version : 1.06

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1618

Section 1. Identification

Product name : KRYLON® High Heat Black

Product code : 1618

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	36.11	67-64-1
Toluene	27.61	108-88-3
Propane	18.06	74-98-6
Xylene	2.42	1330-20-7
Carbon Black	1.98	1333-86-4
1-Butanol	1	71-36-3
Ethylbenzene	0.43	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
1-Butanol	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³

Ethylbenzene	**OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Toluene	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada,**

1-Butanol	**5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. **CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 60 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 15 ppm 8 hours. C: 30 ppm **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** STEV: 50 ppm 15 minutes. STEV: 152 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.18 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Carbon Black	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1811.2 mg/kg
Dermal	277862.8 mg/kg
Inhalation (gases)	169636.1 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella	72 hours

Section 12. Ecological information

		subcapitata	
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 

Section 14. Transport information

Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2).	-	-	**Emergency schedules (EmS)** F-D, S-U
	ERG No. 126	**ERG No.** 126	**ERG No.** 126		

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

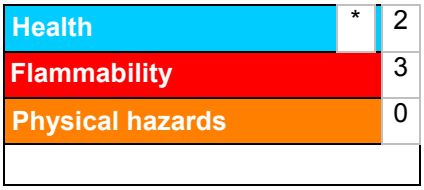
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 7/15/2016

Date of issue/Date of revision : 7/15/2016

Date of previous issue : 6/4/2016

Version : 3.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1618

Section 1. Identification

Product name : KRYLON® High Heat Black

Product code : 1618

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	36.11	67-64-1
Toluene	27.61	108-88-3
Propane	18.06	74-98-6
Xylene	2.42	1330-20-7
Carbon Black	1.98	1333-86-4
1-Butanol	1	71-36-3
Ethylbenzene	0.43	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
1-Butanol	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³

Ethylbenzene	**OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Toluene	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada,**

1-Butanol	**5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. **CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 60 mg/m³ 8 hours. 8 hrs OEL: 20 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 15 ppm 8 hours. C: 30 ppm **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** STEV: 50 ppm 15 minutes. STEV: 152 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 30 ppm 15 minutes. TWA: 20 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.18 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Carbon Black	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1811.2 mg/kg
Dermal	277862.8 mg/kg
Inhalation (gases)	169636.1 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella	72 hours

Section 12. Ecological information

		subcapitata	
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 

Section 14. Transport information

Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **ERG No.** 126	- **ERG No.** 126	-	**Emergency schedules (EmS)** F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

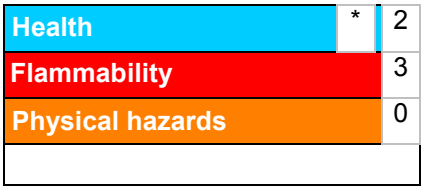
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 6/4/2016

Date of issue/Date of revision : 6/4/2016

Date of previous issue : 6/3/2016

Version : 3

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1618

Section 1. Identification

Product name : KRYLON® High Heat Black

Product code : 1618

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - ≤50	67-64-1
Toluene	≥25 - ≤50	108-88-3
Propane	≥10 - ≤25	74-98-6
Xylene	≤3	1330-20-7
Carbon Black	≤3	1333-86-4
1-Butanol	≤3	71-36-3
Ethylbenzene	<1	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
1-Butanol	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³

Ethylbenzene	**OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.18 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15	-

				milligrams	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Carbon Black	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1811.2 mg/kg
Dermal	277862.8 mg/kg
Inhalation (gases)	169636.1 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** Not Applicable **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** F-D, S-U **Special provisions** LIMITED QUANTITY

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

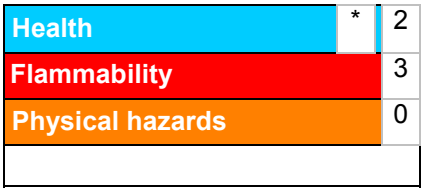
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 3/27/2016

Date of issue/Date of revision : 3/27/2016

Date of previous issue : 2/13/2016

Version : 2

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1618

Section 1. Identification

Product name : KRYLON® High Heat Black

Product code : 1618

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 18.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - <50	67-64-1
Toluene	≥26 - <50	108-88-3
Propane	≥10 - <25	74-98-6
Xylene	≥2.2 - <3	1330-20-7
Carbon Black	≥1 - <3	1333-86-4
1-Butanol	≥1 - <3	71-36-3
Ethylbenzene	≥0.3 - <1	100-41-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 3/2015).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
1-Butanol	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).**

Ethylbenzene	TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.18 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15	-

				milligrams	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Carbon Black	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1811.2 mg/kg
Dermal	277862.8 mg/kg
Inhalation (gases)	169636.1 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Section 12. Ecological information

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** (ERG#126) **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

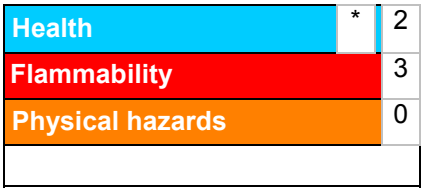
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Flam. Aerosol 1, H222	On basis of test data
Press. Gas Comp. Gas, H280	Calculation method
Acute Tox. 4, H302	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Carc. 2, H351	Calculation method
Repr. 2, H361 (Unborn child)	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method

History

Date of printing : 2/13/2016

Date of issue/Date of revision : 2/13/2016

Date of previous issue : 11/28/2015

Version : 1.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1618

Section 1. Identification

Product name : KRYLON® High Heat Black

Product code : 1618

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Krylon Products Group
Cleveland, OH 44115

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 457-9566

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 29.4%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	36.1	67-64-1
Toluene	27.6	108-88-3
Propane	18.1	74-98-6
Xylene	2.4	1330-20-7
Carbon Black	2.0	1333-86-4
1-Butanol	1.0	71-36-3
Ethylbenzene	0.4	100-41-4

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours. TWA: 1188 mg/m³ 8 hours. STEL: 750 ppm 15 minutes. STEL: 1782 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Xylene	**ACGIH TLV (United States, 4/2014).** TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.
Carbon Black	**NIOSH REL (United States, 10/2013).** TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 3.5 mg/m³ 8 hours. **ACGIH TLV (United States, 4/2014).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction
1-Butanol	**ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** **Absorbed through skin.** CEIL: 50 ppm

Ethylbenzene	CEIL: 150 mg/m³ **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 300 mg/m³ 8 hours. **ACGIH TLV (United States, 4/2014).** TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 435 mg/m³ 10 hours. STEL: 125 ppm 15 minutes. STEL: 545 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.77

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.07 cm^2/s (<7 cSt)
Kinematic (40°C (104°F)): <0.07 cm^2/s (<7 cSt)

Aerosol product

Type of aerosol : Spray

Heat of combustion : 0.00002718 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Carbon Black	LD50 Oral	Rat	>15400 mg/kg	-
1-Butanol	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
1-Butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Mililiters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15	-

				milligrams	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Xylene	-	3	-
Carbon Black	-	2B	-
Ethylbenzene	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Xylene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1-Butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Xylene	Category 2	Not determined	Not determined
1-Butanol	Category 2	Not determined	Not determined
Ethylbenzene	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1561.4 mg/kg
Dermal	239546.9 mg/kg
Inhalation (gases)	146244.2 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
1-Butanol	Acute EC50 1983000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Ethylbenzene	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 6530 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Section 12. Ecological information

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Xylene	-	-	Readily
1-Butanol	-	-	Readily
Ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Xylene	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

Additional information	Special provisions	Special provisions	Special provisions	Special provisions	Emergency schedules (EmS)
	LIMITED QUANTITY	LIMITED QUANTITY	(ERG#126)	LIMITED QUANTITY	LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

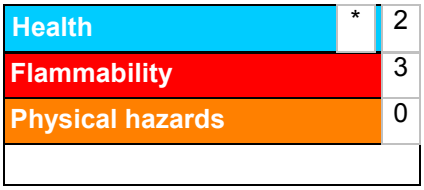
State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

Safety Data Sheet

Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-793-7776

Section 1. Chemical Product and Company Identification

Product name **LEMON FURNITURE POLISH**

Product use Furniture Polish & Cleaner

Product code **R044**

Date of issue **06/14/13** **Supersedes 11/21/11**

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-793-7776

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By
Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity

1 1 0

DANGER

CAUSES EYE AND SKIN IRRITATION. VAPOR HARMFUL.
HARMFUL OR FATAL IF SWALLOWED.

CONTENTS UNDER PRESSURE.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Dermal contact. Eye contact. Inhalation.

Eyes Causes eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin Causes skin irritation. Skin inflammation is characterized by itching, scaling, or reddening.

Inhalation Avoid breathing vapors, spray or mists. Over-exposure by inhalation may cause respiratory irritation. Inhalation of spray mists or vapors may cause central nervous system depression characterized by headache, dizziness, nausea, and/or stupor.

Ingestion Aspiration hazard if swallowed. Can enter lungs and cause damage.

Chronic effects Contains material which may cause damage to the following organs: heart, skin, central nervous system (CNS). Prolonged skin contact may cause dermatitis with drying and cracking of skin.

Carcinogenicity Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Product/ingredient name

Not available.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
Alkanes, C12-14-iso-	68551-19-9	10 - 20
Butane	106-97-8	1 - 10
Naphtha (petroleum), light alkylate	64741-66-8	1 - 10
Dimethicone; Silicone L-45	63148-62-9	1 - 10
propane	74-98-6	1 - 10

Section 4. First Aid Measures

Eye Contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention immediately.

Skin Contact Flush affected skin with plenty of water. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. If irritation persists, get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If affected person is conscious, give plenty of water to drink. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)

Flash Point Not available.

Flammable Limits Not available.

Flammability Non-flammable. (CSMA Method)

Fire hazard CONTENTS UNDER PRESSURE. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Bursting aerosol containers may be propelled from a fire at high speed.

Fire-Fighting Procedures Use an extinguishing agent suitable for the surrounding fire. Cool closed containers exposed to fire with water. Fire-fighters should wear appropriate protective equipment.

Section 6. Accidental Release Measures

Spill Clean up Large spills are unlikely due to packaging.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see section 8). Store and use away from heat, sparks, open flame or any other ignition source. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Observe label precautions. Wash thoroughly after handling.

Storage CONTENTS UNDER PRESSURE. Do not puncture, incinerate or store the container at temperatures above 49°C (120°F) or in direct sunlight. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name	Exposure limits
Butane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 800 ppm 8 hour(s). TWA: 1900 mg/m³ 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 800 ppm 10 hour(s). TWA: 1900 mg/m³ 10 hour(s). **ACGIH TLV (United States, 2/2010).** TWA: 1000 ppm 8 hour(s).
propane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hour(s). TWA: 1800 mg/m³ 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 1000 ppm 10 hour(s). TWA: 1800 mg/m³ 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 1000 ppm 8 hour(s). TWA: 1800 mg/m³ 8 hour(s). **ACGIH TLV (United States, 2/2010).** TWA: 1000 ppm 8 hour(s).

Personal Protective Equipment (PPE)

Eyes Safety glasses.

Body For prolonged or repeated handling, use the following type of gloves:
Neoprene gloves. Nitrile gloves. Rubber gloves.

Respiratory A respirator is not needed under normal and intended conditions of product use. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Section 9. Physical and Chemical Properties

Physical State Liquid. [Aerosol.]
pH Not applicable.
Boiling Point 104.44°C (220°F)
Specific Gravity 0.93
Solubility Insoluble in the following materials: cold water and hot water.

Color Opaque. Emulsion.
Odor Pleasant. Lemon-like.
Vapor Pressure Not available.
Vapor Density Not available.
Evaporation Rate 1 (Water = 1)

VOC (Consumer) 17 % (w/w) 1.32 lbs/gal (158.2 g/l)

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Incompatibility Avoid contact with strong oxidizers, excessive heat, sparks or open flame. Incompatible with some strong acids.
Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.
Hazardous Decomposition Products carbon oxides (CO, CO_2)

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m3	4 hours

Section 12. Ecological Information

Environmental Effects Not available.

Aquatic Ecotoxicity

Dimethicone; Silicone L-45	-	Acute LC50 44500 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Instar - 1 to 48 hours	48 hours
	-	Acute LC50 3160 ug/L Fresh water	Fish - Channel catfish - Ictalurus punctatus	96 hours

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Classification: Non-hazardous waste by Characteristic.
Origin: RCRA waste.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	-	Consumer commodity or Limited quantity	ORM-D	-	
IMDG Class	-	Limited quantity	-	-	

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.
PG* : Packing group

Section 15. Regulatory Information

U.S. Federal Regulations

SARA 313 toxic chemical notification and release reporting:

No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

All Components of this product are listed or exempt from listing on TSCA Inventory.

State Regulations

California Prop 65

No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.*

klm

LEMON PLEDGE® (TRIGGER)

Date Issued: 01Nov2005 **Supersedes: 17Nov2004**

US MANUFACTURER:
S.C. Johnson & Son, Inc.
Phone: (800) 725-6737
Racine, Wisconsin 53403-2236
Emergency Phone: (866) 231-5406
International Emergency Phone:
(952) 852-4647

CANADIAN MANUFACTURER:
S.C. Johnson and Son, Limited
Phone: (800) 725-6737
1 Webster Street
Brantford, Ontario N3T 5R1
Transportation Emergency:
CANUTEC (collect) (613) 996-6666
Poison Control: (866) 231-5406

HAZARD RATING	HMIS	HAZARD	NFPA
4-Very High	1	Health	1
3-High	0	Flammability	0
2-Moderate	0	Reactivity	0
1-Slight		Special	
0-Insignificant			

DISTRIBUTED IN CANADA BY:
S.C. Johnson and Son, Limited
Phone: (800) 725-6737
1 Webster Street
Brantford, Ontario N3T 5R1

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME..... LEMON PLEDGE® (TRIGGER)
REASON FOR CHANGE..... Section 5. Hazard Rating.
PRODUCT USE..... Furniture care

UPC	SCJ CODE	QUANTITY	US SIZE	CANADIAN SIZE
0 00000	365	12		470 mL

SECTION 2 - INGREDIENT INFORMATION

INGREDIENT	WEIGHT%	EXPOSURE LIMIT/TOXICITY
Silicone (CAS# 63148-62-9).....	1-5	NOT ESTABLISHED
Mineral oil (CAS# 8042-47-5).....	1-5	5 mg/m³ OSHA PEL , 5 mg/m³ ACGIH TLV-TWA
Isoparaffinic hydrocarbon solvent..... (CAS# 64742-48-9)	0.5-1.5	300 ppm SUPPLIER RECOMMENDED
Water (CAS# 7732-18-5).....	60-100	NOT ESTABLISHED

SECTION 3 - HEALTH HAZARDS IDENTIFICATION (Also See Section 11)

ROUTE(S) OF ENTRY..... Eye contact.
EFFECTS OF ACUTE EXPOSURE:
EYE..... May cause: Mild eye irritation.
SKIN..... None known.
INHALATION..... None known.
INGESTION..... None known.
MEDICAL CONDITIONS..... None known.
GENERALLY RECOGNIZED
AS BEING AGGRAVATED
BY EXPOSURE

SECTION 4 - FIRST AID MEASURES

EYE CONTACT..... Rinse with plenty of water.
SKIN CONTACT..... Wash contaminated area with water and soap.

LEMON PLEDGE® (TRIGGER)

Date Issued: 01Nov2005 **Supersedes: 17Nov2004**

SECTION 4 - FIRST AID MEASURES (continued)

INHALATION	Remove to fresh air.
INGESTION	Do not induce vomiting! Contact nearest poison control center.

SECTION 5 - FIRE AND EXPLOSION INFORMATION

FLASH POINT	None.
FLAMMABLE LIMITS	Not applicable.
AUTOIGNITION TEMPERATURE	Not applicable.
EXTINGUISHING MEDIA	Foam. CO2. Dry chemical. Water fog.
SPECIAL FIREFIGHTING PROCEDURES	Normal fire fighting procedure may be used.
UNUSUAL FIRE AND EXPLOSION HAZARDS	Container may melt and leak in heat of fire.

SECTION 6 - PREVENTIVE RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Absorb with oil-dri or similar inert material. Sweep or scrape up and containerize. Rinse affected area thoroughly with water.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONARY INFORMATION	Keep out of reach of children.
OTHER HANDLING AND STORAGE CONDITIONS	Keep from freezing. Keep out of reach of children.

SECTION 8 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	No special requirements under normal use conditions.
VENTILATION	General room ventilation adequate.
PROTECTIVE GLOVES	No special requirements under normal use conditions.
EYE PROTECTION	No special requirements under normal use conditions.
OTHER PROTECTIVE MEASURES	No special requirements.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

COLOR	Milky Opaque
PRODUCT STATE	Liquid.
ODOR	Lemon
pH	5.5-7.0
ODOR THRESHOLD	Not available.
SOLUBILITY IN WATER	Dispersible
SPECIFIC GRAVITY (H2O=1)	.99
VAPOR DENSITY (AIR=1)	Not available.
EVAPORATION RATE (BUTYL ACETATE=1)	Not available.
VAPOR PRESSURE (mm HG)	Not available.
BOILING POINT	100°C (212°F)
FREEZING POINT	0°C (32°F)
COEFFICIENT OF WATER/OIL	Not available.

LEMON PLEDGE® (TRIGGER)

Date Issued: 01Nov2005 **Supersedes: 17Nov2004**

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES (continued)

PERCENT VOLATILE BY VOLUME (%)	94.5-95.5
VOLATILE ORGANIC COMPOUND (VOC)	Isoparaffinic Hydrocarbon
THEORETICAL VOC (LB/GAL)	0.086

SECTION 10 - STABILITY AND REACTIVITY

STABILITY	Stable
STABILITY - CONDITIONS TO AVOID	None known.
INCOMPATIBILITY	None known.
HAZARDOUS DECOMPOSITION PRODUCTS	None known.
HAZARDOUS POLYMERIZATION	Will not occur.
HAZARDOUS POLYMERIZATION - CONDITIONS TO AVOID	None known.

SECTION 11 - TOXICOLOGY INFORMATION (Also See Section 3)

LD50 (ACUTE ORAL TOX)	Estimated to be greater than 5000 mg/kg (rats).
LD50 (ACUTE DERMAL TOX)	Greater than 20,000 mg/kg
LC50 (ACUTE INHALATION TOX)	Not available.
EFFECTS OF CHRONIC EXPOSURE	None known.
SENSITIZATION	None known.
CARCINOGENICITY	None known.
REPRODUCTIVE TOXICITY	None known.
TERATOGENICITY	None known.
MUTAGENICITY	None known.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA	Not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL INFORMATION	No special method. Observe all applicable Federal/ Provincial/ State regulations and Local/ Municipal ordinances regarding disposal of non-hazardous materials.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT INFORMATION	Buffing or polishing compounds, N.O.I.
CANADIAN SHIPPING NAME	LEMON PLEDGE® (TRIGGER)
TDG CLASSIFICATION	Non-regulated.
PIN/NIP	Not applicable.
PACKING GROUP	Not applicable.
EXEMPTION NAME	Not applicable.

LEMON PLEDGE® (TRIGGER)

Date Issued: 01Nov2005 **Supersedes: 17Nov2004**

SECTION 15 - REGULATORY INFORMATION

WHMIS CLASSIFICATION... Non-regulated.

All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

All ingredients in this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

This product is not subject to the reporting requirements under California's Proposition 65.

SECTION 16 - OTHER INFORMATION

ADDITIONAL INFORMATION. Use as directed.
EPA REGISTRATION #..... Not applicable.

PREPARATION INFORMATION

PREPARED BY..... Manufacturer's Technical Support Department. Refer to page 1 (Manufacturer) for contact information.

This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, express or implied, as to the accuracy of the information contained herein. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.
PRINT DATE: 01Nov2005

Material Safety Data Sheet

Filler Metals and Welding Rods

Product Trade Name/Product Classification(s): **LFB Low Fuming Bronze (Bare & Coated)**

"ESSENTIALLY SIMILAR" to U.S. Department of Labor Form OSHA 20 (to comply with OSHA's Hazard Communication Standard 29 CFR 1910, 1200)

SECTION 1: Identification

SUPPLIER: Praxair Distribution, Inc. Danbury, CT 06810-5113, USA
Phone: 1-800-772-9247 **Revised:** *Revision Date Jan 1st 2013*

Product Trade Name/Product Classification(s): **LFB RBCuZn-C AWS A5.27**

RBCuZn-C	**LFB-BARE**
RBCuZn-C	**LFB-FC**

SECTION 3: Physical Properties

NOT APPLICABLE

SECTION 4: Fire and Explosion Hazard Data

These products as shipped are non-hazardous, non-flammable, non-explosive, and non-reactive. Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z-49.1 for fire prevention during the use of welding procedures.

SECTION 5: Reactivity Data

HAZARDOUS DECOMPOSITION PRODUCTS:
Welding gases cannot be classified simply. Their composition and quantities are dependent upon the metal being welded, the process, the procedures, and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), number of welds and volume of work area, quality and amount of ventilation, position of welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). The primary route of entry of welding fumes and gases is by inhalation.

When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section 2. Decomposition products include those originating from volatilization, reaction, or oxidation of the materials shown in Section 2 plus those from base metal, coating, etc... as noted in Section 6.

These components are virtually always present as complex compounds and not as metals (Characterization of Arc Welding Fume: American Welding Society).

Reasonably expected fume or gas constituents of this product would include metal fumes, oxides of aluminum and magnesium, carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infra-red radiation, and ultra-violet radiation.

One recommended way to determine the composition and quantity of fumes and gases to which worker's are exposed are to take an air sample inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1, available from the American Welding Society, P.O. Box 351040, Miami, FL 33135.

SECTION 2: Hazardous Materials

IMPORTANT: THE MATERIALS LISTED ARE WHAT IS REASONABLY EXPECTED TO EXIST IN THE FUMES WHEN PRODUCT IS USED IN WELDING.
THE TERM "HAZARDOUS" SHOULD BE INTERPRETED AS A TERM REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD(29 C.F.R. 1910.1200) AND IT DOES NOT NECESSARILY IMPLY THE EXISTENCE OF ANY HAZARD. Suspected contaminants: lead .05% and traces of all the metals below. Other metals in trace amounts may be found though they are not known
to exist at harmful levels.

MATERIAL	(CAS NO.)	ACGHI TLV	OSHA PEL
		Mg/M^3	
Aluminum (fume)	7429-90-5	5.0	not listed
Aluminum (dust)	7429-90-5	10.0	not listed
Copper (fume)	7440-50-8	0.2	0.1
Copper (dust)	7440-50-8	1.0	1.0
Iron (oxide fume)(A)	1309-37-1	5.0	10.0
Nickel (soluble compounds)(B)	7440-02-0	1.0	1.0
Manganese (fume)	7439-96-5	1.0(fume)	5.0(ceiling)
Manganese (dust)	7439-96-5	8.0	5.0
Silicon(C)	7440-21-3	5Mg/M^3 respirable dust 10Mg/M^3 total dust	not listed
Zinc (oxide)(D)	1314-13-2	5.0(fume)	5.0
Tin (oxide)(E)	7440-31-5	2.0	2.0
Cobalt	7440-48-4	1.0	0.1

SOME OF THESE PRODUCTS ARE COATED WITH A CHEMICAL FLUX. FOR FLUX COATED ROD, THE FOLLOWING SHOULD BE INCLUDED WITH THE ABOVE BARE ROD:

MATERIAL	(CAS NO)	ACGHI TLV	OSHA PEL
		Mg/M^3	
Boric Acid (Boron Oxide)	1303-86-2 -	10.0 1.0	15 Not Listed
Sodium Tetraborate	1303-96-4	-	-

- Occupational Safety and Health Administration, 29, C.F.R. 1910.1000 Permissible Exposure Limit (PEL).
- American Conference of Governmental Industrial Hygienists(ACGI) Threshold Limit Value(TLV[R]).
- Unknown: nuisance particulate concentration per ACGIH is 10mg/m^3

(A) Present in Silicon Bronze (ERCuSi-A), Alum Bronze A2 (ERCuAL-A2), and Alum Bronze 46 (ERCuNiAL)
(B) Present in Alum Bronze 46 (ERCuNiAL), and Alum Bronze 40
(C) Not Present in Phos Bronze A(ERCuSn-A), and Phos Bronze C (ERCuSn-C)
(D) Present in Silicon Bronze (ERCuSi-A), Alum Bronze A1 (ERCuAL-A1), and Alum Bronze A2 (ERCuAL-A2)
(E) Present in Sil Bronze, Deox Copper, Phos Bronze A, and Phos Bronze C

SECTION 6: Health Hazard Data

THRESHOLD LIMIT VALUE: The ACGIH recommended general limit for welding fume NOC (Not Otherwise Classified) is 5mg/m^3. The ACGIH 1984-85 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section 5 for specific fume constituents that may modify this TLV.

EFFECTS OF OVEREXPOSURE: FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH. Aggravation of preexisting respiratory or allergic conditions may occur in some workers. Short term (ACUTE) overexposure to welding fumes may result in discomfort such as: dizziness, nausea, and dryness or irritation of the nose, throat, or eyes. Long term (CHRONIC) overexposure to welding fumes may lead to siderosis (iron deposits in the lung) and is believed by some investigators to affect pulmonary function. ARC RAYS can injure eyes and burn skin. ALUMINUM-Dust/fines and fumes are a low health risk by inhalation and are normally treated as a nuisance dust in normal operations (e.g., milling, cutting, grinding). The AIHA Hygiene Guide lists toxicity by ingestion as "none expected". COBALT-has been reported as causing hyper sensitization type dermatitis in individuals who are susceptible. Animal studies have shown that particulate cobalt is an acutely irritating substance and industrial exposures, possible combined with small amounts of silica, are reported capable of producing serious pneumoconiosis that is initially of an insidious nature. NICKEL-The most common ailment arising from contact with nickel is an allergic dermatitis known as "nickel itch" that usually occurs when the skin is moist. Generally nickel and most salts of nickel do not cause systemic poisoning, IRAC has determined that there is at least limited evidence that nickel and certain nickel compounds may be human carcinogens. Several nickel compounds are carcinogenic to laboratory animals by various routes of entry. COPPER - Melting, grinding, cutting, of copper may produce fumes of dust exposure and breathing these fumes or dust may present potentially significant heath hazards. Fumes of copper may cause metal fume fever with fume like symptoms and skin and hair discoloration.

While industrial dermatitis has not been reported, keratinization of the hands and the soles of feet has been reported. Systemically as well, copper dust and fume cause irritation of the upper respiratory tract, a metallic taste in the mouth, and nausea. IRON-the inhalation of iron oxide fumes may cause an apparent benign pneumoconiosis that is called siderosis. This disease is reported not to be disabling, but makes x-ray determination of other lung conditions difficult or impossible. MANGANESE-chronic manganese poisoning may result from inhalation of dust or fumes. The central nervous system is the chief site of the injury. Chronic manganese poisoning is not a fatal disease although it is extremely disabling. Some individuals may be hypersusteptible to manganese. Freshly formed manganese fume has caused fever and chill similar to metal fume fever. ELECTRIC SHOCK CAN KILL. See Section 7.

CARCINOGENICITY: The following metals which appear in this Material Safety Data Sheet (MSDS) are classified as toxic chemicals which mates alloys containing these metals subject to reporting requirements of Section 313, Title 3, of the super fund amendments and reauthorization act of 1986 and 40 CRF part 372 CHROMIUM, COBALT, COPPER, LEAD, MANGANESE, AND NICKEL. Nickel should be considered a possible carcinogen per OSHA 29 CRF 1910.1200.

EMERGENCY & FIRST AID PROCEDURES: Remove to fresh air, obtain medical attention. Employ first aid techniques recommended by the American Red Cross.

SECTION 7: Precautions For Safe Handling And Use/Applicable Control Measures

Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Standard Z-49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 354140, Miami, FL 33135 and OSHA Publication 2206 (29 C.R.F. 1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail.

VENTILATION: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV'S in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplies respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.

EYE PROTECTION: Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to the next lighter shade that gives sufficient view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.

PROTECTIVE CLOTHING: Wear head, hand, and body protection that help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. At a minimum, this includes welder's gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

PROCEDURE FOR CLEANING OF SPILLS OR LEAKS: Not applicable.

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with Federal, State, and Local regulations.

SECTION 8: DISCLAIMER

ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF THE INFORMATION HEREIN, Praxair EXTENDS NO WARRANTIES, EXPRESS OR IMPLIED, MAKES NO REPRESENTATIONS AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF INFORMATION FOR APPLICATION TO PURCHASER'S INTENDED PURPOSE OR FOR CONSEQUENCES OF ITS USE. JUDGMENTS AS TO THE SUITABILITY OF INFORMATION FOR PURCHASER'S PURPOSES ARE PURCHASER'S RESPONSIBILITY.

Material Safety Data Sheet

LN-601 PROJECTS AHE60124TN0.85

1 . Product and company identification

Product name : LN-601 PROJECTS AHE60124TN0.85

Manufacturer : Akzo Nobel Paints LLC
15885 West Sprague Road
Strongsville, OH 44136
U.S.A.

Validation date : **2013-03-12.**

Print date : 2013-03-12.

Responsible name : Product Safety and Compliance

In case of emergency : 1-800-545-2643

2. Hazards identification

Emergency overview

Physical state : Liquid.

Signal word : DANGER!

Hazard statements

EXTREMELY FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. NOTICE: This product contains solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Precautionary measures : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Irritating to respiratory system.

Ingestion : Toxic if swallowed.

Skin : Irritating to skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data. NOTICE: This product contains solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

2. Hazards identification

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, cardiovascular system, upper respiratory tract, skin, eyes, central nervous system (CNS), stomach, testes.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Kaolin	1332-58-7	10-<30
Limestone	1317-65-3	10-<30
Petroleum resins	64742-16-1	10-<30
heptane	142-82-5	5-<10
Benzene, ethenyl-, polymer with 1,3-butadiene	9003-55-8	1-<5
cyclohexane	110-82-7	1-<5
Quartz (SiO2)	14808-60-7	1-<5
titanium dioxide	13463-67-7	0.1-<1.0
cristobalite	14464-46-1	0.1-<1.0
Solvent naphtha (petroleum), light aliph.	64742-89-8	10-<30
Distillates (petroleum), light distillate hydrotreating process, low-boiling	68410-97-9	10-<30
Styrene butadiene polymer	26471-45-4	1-<5
rosin	8050-09-7	0.1-<1.0

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse

7. Handling and storage

container. Keep out of the reach of children.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep from freezing.

8. Exposure controls/personal protection

Ingredient	Exposure limits
Kaolin	**ACGIH TLV (United States, 1/2011). Notes: 1996 Adoption Refers to Appendix A -- Carcinogens. Respirable fraction; see Appendix C, paragraph C.** TWA: 2 mg/m³ 8 hour(s). Form: Respirable fraction **NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 10 hour(s). Form: Total **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 8 hour(s). Form: Total dust
Limestone	**NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 10 hour(s). Form: Total **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust
heptane	**ACGIH TLV (United States, 1/2011).** STEL: 2050 mg/m³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 1640 mg/m³ 8 hour(s). TWA: 400 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** CEIL: 1800 mg/m³ 15 minute(s). CEIL: 440 ppm 15 minute(s). TWA: 350 mg/m³ 10 hour(s). TWA: 85 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 2000 mg/m³ 8 hour(s). TWA: 500 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** STEL: 2000 mg/m³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 1600 mg/m³ 8 hour(s). TWA: 400 ppm 8 hour(s).
cyclohexane	**ACGIH TLV (United States, 1/2011).** TWA: 100 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 1050 mg/m³ 10 hour(s). TWA: 300 ppm 10 hour(s). **OSHA PEL (United States, 6/2010).** TWA: 1050 mg/m³ 8 hour(s). TWA: 300 ppm 8 hour(s).

8. Exposure controls/personal protection

Quartz (SiO2)	**OSHA PEL 1989 (United States, 3/1989).** TWA: 1050 mg/m³ 8 hour(s). TWA: 300 ppm 8 hour(s). **OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO2+2)** TWA: 10 mg/m³ 8 hour(s). Form: Respirable **OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO2+5)** TWA: 250 mppcf 8 hour(s). Form: Respirable **OSHA PEL 1989 (United States, 3/1989). Notes: as quartz** TWA: 0.1 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust **ACGIH TLV (United States, 1/2011). Notes: Respirable fraction; see Appendix C, paragraph C.** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction **OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO2+2)** TWA: 30 mg/m³ 8 hour(s). Form: Total dust. **NIOSH REL (United States, 6/2009). Notes: See Appendix A - NIOSH Potential Occupational Carcinogen** TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust
titanium dioxide	**OSHA PEL (United States, 6/2010).** TWA: 15 mg/m³ 8 hour(s). Form: Total dust **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hour(s). Form: Total dust **ACGIH TLV (United States, 1/2011). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.** TWA: 10 mg/m³ 8 hour(s).
cristobalite	**OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[10/(%SiO2+2)]** TWA: 10 mg/m³ 8 hour(s). Form: Respirable **OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[250/(%SiO2+5)]** TWA: 250 mppcf 8 hour(s). Form: Respirable **OSHA PEL 1989 (United States, 3/1989). Notes: as quartz** TWA: 0.05 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust **ACGIH TLV (United States, 1/2011). Notes: Respirable fraction; see Appendix C, paragraph C.** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction **OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[30/(%SiO2+2)]** TWA: 30 mg/m³ 8 hour(s). Form: Total dust. **NIOSH REL (United States, 6/2009).** TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8. Exposure controls/personal protection

Respiratory : A NIOSH-approved, air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: -16°C (3.2°F)

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Not available.

Odor : not available

pH : Not available.

Boiling/condensation point : 83°C (181.4°F)

Melting/freezing point : Not available.

Specific gravity : 1.173

Density (lbs/gal) : 9.789

Vapor pressure : Not available.

Vapor density : Not available.

Volatility : 56.1% (v/v), 34.41% (w/w)

Viscosity : Dynamic: 99999 mPa·s (99999 cP)

Dispersibility properties : Not dispersible in the following materials: cold water.

Solubility : Insoluble in the following materials: cold water.

VOC g/l : 404 g/l [Method 24]

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
heptane	LC50 Inhalation Gas. LC50 Inhalation Vapor	Rat Rat	48000 ppm 103 g/m3	4 hours 4 hours
cyclohexane	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Benzene, ethenyl-, polymer with 1,3-butadiene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kaolin	A4	-	-	-	-	-
Benzene, ethenyl-, polymer with 1,3-butadiene	-	3	-	-	-	-
cyclohexane	-	-	-	None.	-	-
Quartz (SiO2)	A2	1	-	+	Proven.	-
titanium dioxide	A4	2B	-	+	-	-
cristobalite	A2	1	-	+	Proven.	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
heptane	Acute LC50 375000 ug/L Fresh water	Fish - Oreochromis mossambicus - 99 mm - 10 g	96 hours
cyclohexane	Acute LC50 4530 to 5180 ug/L Fresh water	Fish - Pimephales promelas - 30 days - 20.5 mm - 0.119 g	96 hours
titanium dioxide	Acute EC50 5.83 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	Acute LC50 >1000000 ug/L Marine	Fish - Fundulus heteroclitus	96 hours

12. Ecological information

	water		

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1133	ADHESIVES	3	II		-
IMDG Class	UN1133	ADHESIVES	3	II		-

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: Not determined.

SARA 302/304/311/312 extremely hazardous substances: No components were found.

SARA 302/304 emergency planning and notification: No components were found.

SARA 302/304/311/312 hazardous chemicals: Kaolin; Limestone; heptane; Benzene, ethenyl-, polymer with 1,3-butadiene; cyclohexane; Quartz (SiO2)

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Kaolin: Delayed (chronic) health hazard; Limestone: Immediate (acute) health hazard; heptane: Fire hazard; Benzene, ethenyl-, polymer with 1,3-butadiene: Immediate (acute) health hazard; cyclohexane: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Quartz (SiO2): Immediate (acute) health hazard, Delayed (chronic) health hazard

State regulations

Massachusetts : The following components are listed: CALCIUM CARBONATE; HEPTANE (N-HEPTANE); CYCLOHEXANE; SILICA, CRYSTALLINE, QUARTZ

New York : The following components are listed: Benzene, hexahydro-

New Jersey : The following components are listed: KAOLIN; CALCIUM CARBONATE; LIMESTONE; n-HEPTANE; HEPTANE; CYCLOHEXANE; SILICA, QUARTZ; QUARTZ (SiO2); TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2); SILICA, CRISTOBALITE; CRISTOBALITE (SiO2)

Pennsylvania : The following components are listed: KAOLIN; LIMESTONE; HEPTANE; CYCLOHEXANE; QUARTZ (SIO2); TITANIUM OXIDE (TIO2); CRISTOBALITE (SIO2)

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

Canada inventory : Not determined.

16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Prepared by : Product Safety and Compliance Akzo Nobel Paints LLC

Notice to reader

The information contained herein is based on data available at the time of preparation of this data sheet and which Akzo Nobel Paints LLC believes to be reliable. However, no warranty is expressed or implied regarding the accuracy of this data. Akzo Nobel Paints LLC shall not be responsible for the use of this information, or of any product, method or apparatus mentioned and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and the health and safety of your employees and users of this material.

Complies with OSHA Hazard Communication Standard 29CFR1910.1200.

Revision Number: 005.1

Issue date: 06/29/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **LOCTITE 5127 FLEXIBLE GASKET SEALANT known as Flexible Anaerobic Gasket Flan**

IDH number: 530596

Product type: Anaerobic Adhesive

Item number: 38169

Restriction of Use: None identified

Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING:
CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE IRRITATION.
MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or physician if you feel unwell. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Dimethacrylate terminated urethane polyester	Unknown	30 - 60
2-Hydroxy-3-phenoxypropyl methacrylate	16926-87-7	10 - 30
Polyurethane methacrylate resin	Proprietary	10 - 30
Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
1-Acetyl-2-phenylhydrazine	114-83-0	0.1 - 1
2-Hydroxyethyl methacrylate	868-77-9	0.1 - 1
Ethylene glycol	107-21-1	0.1 - 1
Polyglycol dimethacrylate	Proprietary	0.1 - 1
Cumene	98-82-8	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store between 0 °C (32°F) and 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Dimethacrylate terminated urethane polyester	None	None	None	None
2-Hydroxy-3-phenoxypropyl methacrylate	None	None	None	None
Polyurethane methacrylate resin	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
1-Acetyl-2-phenylhydrazine	None	None	None	None
2-Hydroxyethyl methacrylate	None	None	None	3 ppm Ceiling
Ethylene glycol	100 mg/m3 Ceiling Aerosol.	None	None	None
Polyglycol dimethacrylate	None	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Gel
Color:	Blue
Odor:	Mild
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	< 5 mm hg (80 °F (26.7 °C))
Boiling point/range:	> 300 °F (> 148.9 °C)
Melting point/ range:	Not available.
Specific gravity:	1.0961
Vapor density:	Not available.
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Evaporation rate:	Not available.
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available.
VOC content:	8.17 %; 89.6 g/l EPA Method 24
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.
Hazardous decomposition products:	Oxides of nitrogen. Oxides of sulfur. Oxides of carbon. Irritating organic vapours.
Incompatible materials:	Free radical initiators. Strong oxidizing agents. Reducing agents. Alkalis. Rust. Acids. copper Iron.
Reactivity:	Not available.
Conditions to avoid:	Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Not available.

Potential Health Effects/Symptoms

Inhalation: Not available.
Skin contact: Not available.
Eye contact: Not available.
Ingestion: Not available.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Dimethacrylate terminated urethane polyester	None	Irritant, Allergen
2-Hydroxy-3-phenoxypropyl methacrylate	None	Irritant, Allergen
Polyurethane methacrylate resin	None	Irritant, Allergen
Silica, amorphous, fumed, crystal-free	None	Nuisance dust
Cumene hydroperoxide	None	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
1-Acetyl-2-phenylhydrazine	None	Allergen, Blood, Kidney, Mutagen, Some evidence of carcinogenicity
2-Hydroxyethyl methacrylate	Oral LD50 (RAT) = 11.2 g/kg Oral LD50 (RAT) = 5,050 mg/kg	Irritant, Allergen
Ethylene glycol	Oral LD50 (RAT) = 5.89 g/kg Dermal LD50 (RABBIT) = 9,530 mg/kg	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Irritant, Kidney, Liver, Metabolic
Polyglycol dimethacrylate	None	Allergen, Irritant
Cumene	Oral LD50 (RAT) = 2.91 g/kg Oral LD50 (RAT) = 1,400 mg/kg Inhalation LC50 (RAT, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Dimethacrylate terminated urethane polyester	No	No	No
2-Hydroxy-3-phenoxypropyl methacrylate	No	No	No
Polyurethane methacrylate resin	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Cumene hydroperoxide	No	No	No
1-Acetyl-2-phenylhydrazine	No	No	No
2-Hydroxyethyl methacrylate	No	No	No
Ethylene glycol	No	No	No
Polyglycol dimethacrylate	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format. 11

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 06/29/2015

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Revision Number: 004.0

Issue date: 04/29/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE® C5-A® Copper Based Anti-Seize Lubricant
IDH number: 233317
Product type: Lubricant
Item number: 39643
Restriction of Use: None identified
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER:

CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE DAMAGE.
SUSPECTED OF CAUSING GENETIC DEFECTS.
MAY CAUSE CANCER.
CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
SERIOUS EYE DAMAGE	1
SKIN SENSITIZATION	1
GERM CELL MUTAGENICITY	2
CARCINOGENICITY	1A
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves. Use personal protective equipment as required.

Response: IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. IF exposed or concerned: Get medical attention. Immediately call a poison control center or physician. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing.

Storage: Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	30 - 60
Calcium dihydroxide	1305-62-0	10 - 30
Mineral oil light naphthenic hydrotreat. <3% DMSO	64742-53-6	10 - 30
Copper	7440-50-8	10 - 30
Graphite	7782-42-5	5 - 10
Quartz (SiO2)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.

Skin contact: Wash with soap and water. If symptoms develop and persist, get medical attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Do not induce vomiting. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Carbon dioxide. Dry chemical. foam Water spray or fog.

Special firefighting procedures: None

Unusual fire or explosion hazards: None

Hazardous combustion products: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow material to contaminate ground water system.

Clean-up methods: Scrape up as much material as possible. Clean residue with soap and water.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Keep container closed. Wash thoroughly after handling.

Storage: Keep in a cool, well ventilated area.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m3 TWA mist 10 mg/m3 STEL mist	5 mg/m3 TWA mist 500 ppm (2,000 mg/m3) PEL 5 mg/m3 PEL Mist.	None	None
Calcium dihydroxide	5 mg/m3 TWA	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Mineral oil light naphthenic hydrotreat. <3% DMSO	None	500 ppm (2,000 mg/m3) PEL 5 mg/m3 PEL Mist.	None	None
Copper	1 mg/m3 TWA (as Cu) Dust and mist. 0.2 mg/m3 TWA (as Cu) Fume.	1 mg/m3 PEL (as Cu) Dust and mist. 0.1 mg/m3 PEL (as Cu) Fume.	None	None
Graphite	2 mg/m3 TWA Respirable fraction.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 15 MPPCF TWA	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls: Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact. Use of Butyl or Nitrile Rubber gloves is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: Copper
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5.0 mm hg
Boiling point/range: > 260 °C (> 500°F)
Melting point/ range: Not available.

Specific gravity:	1.30
Vapor density:	Heavier than air.
Flash point:	> 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower:	Not determined
Flammable/Explosive limits - upper:	Not determined
Autoignition temperature:	Not determined
Evaporation rate:	Slower than ether.
Solubility in water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
VOC content:	< 3 % Essentially Zero
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Hydrocarbons. Oxides of carbon.
Incompatible materials:	Strong acids and strong bases. Oxidizing agents.
Reactivity:	Not available.
Conditions to avoid:	Prolonged exposure to heat.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Inhalation of copper fumes may result in metal fume fever. Symptoms include metallic taste, discoloration of skin or hair.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes serious eye damage.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Distillates (petroleum), hydrotreated heavy naphthenic	None	Irritant
Calcium dihydroxide	Oral LD50 (RAT) = 7,340 mg/kg	Irritant, Corrosive
Mineral oil light naphthenic hydrotreat. <3% DMSO	None	Irritant
Copper	None	Allergen, Blood, Central nervous system, Developmental, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Mutagen, Sensory, Skin
Graphite	None	Lung
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Distillates (petroleum), hydrotreated heavy naphthenic	No	No	No
Calcium dihydroxide	No	No	No
Mineral oil light naphthenic hydrotreat. <3% DMSO	No	No	No
Copper	No	No	No
Graphite	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)
Proper shipping name: RQ, Environmentally hazardous substances, liquid, n.o.s. (Copper)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Copper
DOT Hazardous Substance(s): Copper

International Air Transportation (ICAO/IATA)

Proper shipping name:	Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III

Water Transportation (IMO/IMDG)

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper)
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
Marine pollutant:	Copper

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA Section 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Copper (CAS# 7440-50-8).
CERCLA Reportable quantity:	Copper (CAS# 7440-50-8) 5,000 lbs. (2,270 kg)
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Catherine Bimler, Regulatory Affairs Specialist

Issue date: 04/29/2014

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Revision Number: 007.0

Issue date: 08/07/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **LOCTITE MR 5009 HI-TACK GASKET SEALANT known as Loctite(R) Hi-Tack Gasket Seal**

IDH number: 234910

Product type: Sealant

Item number: 30526

Restriction of Use: None identified

Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING:
CONTENTS UNDER PRESSURE.
FLAMMABLE AEROSOL.
CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE IRRITATION.
MAY CAUSE DROWSINESS OR DIZZINESS.
SUSPECTED OF CAUSING CANCER.
MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE AEROSOL.	2
SKIN IRRITATION	2
EYE IRRITATION	2A
CARCINOGENICITY	2
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	2

PICTOGRAM(S)

Precautionary Statements

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat,sparks, open flames, hot surfaces - no smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe mist or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye and face protection. Wear protective gloves. Use personal protective equipment as required.

Response:

IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. IF exposed or concerned: Get medical attention. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal:

Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Butane	106-97-8	10 - 30
Acetone	67-64-1	10 - 30
Propane	74-98-6	10 - 30
Methylene chloride	75-09-2	10 - 30
Ethyl acetate	141-78-6	1 - 5
Solvent naphtha, petroleum, light aliph.	64742-89-8	1 - 5

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Unusual fire or explosion hazards: Contents under pressure. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition, and flash back. Do not puncture or incinerate pressurized containers. Exposure to temperatures above 49ºC (120°F) may cause container to burst.

Hazardous combustion products: Oxides of carbon. Aldehydes. Hydrocarbons. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Ensure adequate ventilation. Wear appropriate personal protective equipment. Keep unnecessary personnel away. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a closed container until ready for disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: During use and until all vapors are gone: Keep area ventilated - do not smoke; extinguish all flames, pilot lights, and heaters; turn off stoves, electrical tools and appliances, and any other sources of ignition. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Refer to Section 8. Do not puncture or incinerate pressurized containers.

Storage: For safe storage, store at or below 49 °C (120.2 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Butane	1,000 ppm STEL	None	None	None
Acetone	750 ppm STEL 500 ppm TWA	1,000 ppm (2,400 mg/m3) PEL	None	None
Propane	Included in the regulation but with no data values. See regulation for further details	1,000 ppm (1,800 mg/m3) PEL	None	None
Methylene chloride	50 ppm TWA	12.5 ppm OSHA_ACT 25 ppm TWA 125 ppm STEL	None	None
Ethyl acetate	400 ppm TWA	400 ppm (1,400 mg/m3) PEL	None	None
Solvent naphtha, petroleum, light aliph.	None	None	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). A NIOSH approved self-contained breathing apparatus with full face shield is required for methylene chloride concentrations above 625 ppm and for spills and emergencies.

Eye/face protection:	Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.
Skin protection:	Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene, Butyl-rubber, or nitrile-rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Aerosol
Color:	Red
Odor:	Acetone
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	400 mm hg (38 °C (100.4 °F))
Boiling point/range:	> 100 °F (> 37.8 °C) None
Melting point/ range:	Not available.
Specific gravity:	0.93
Vapor density:	Not available.
Flash point:	Not applicable to aerosols.
Flashback:	This product exhibits flashback when tested for flame extension.
Flame projection:	63.5 cm (25inch)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Evaporation rate:	Not available.
Solubility in water:	Insoluble
Solubility in water:	Partially soluble
Partition coefficient (n-octanol/water):	Not available.
VOC content:	60 %
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Hydrocarbons. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Reducing agents. Acids.
Reactivity:	Not available.
Conditions to avoid:	Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F). Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Excessive inhalation of this material causes headache, dizziness, nausea and incoordination. May cause irritation to nose and throat.

Skin contact: Causes skin irritation. Solvent action can dry and defat the skin, causing the skin to crack, leading to dermatitis.

Eye contact: Causes serious eye irritation.

Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Butane	Inhalation LC50 (RAT, 4 h) = 658 mg/l	Cardiac, Central nervous system, Irritant
Acetone	Oral LD50 (RABBIT) = 5,340 mg/kg Oral LD50 (RAT) = 5,800 mg/kg Oral LD50 (RAT) = 9,800 mg/kg Dermal LD50 (RABBIT) = 20,000 mg/kg Inhalation LC50 (RAT, 8 h) = 50.1 mg/l Inhalation LC50 (RAT, 4 h) = 76 mg/l	Blood, Central nervous system, Irritant, Reproductive
Propane	Inhalation LC50 (RAT, 15 min) = > 1,442.847 mg/l Inhalation LC50 (RAT, 15 min) = > 1,464 mg/l	Cardiac, Central nervous system, Irritant
Methylene chloride	Oral LD50 (RAT) = 1,600 mg/kg Oral LD50 (RAT) = 3,000 mg/kg Inhalation LC50 (RAT, 15 min) = 2,000 mg/l Inhalation LC50 (RAT, 2 h) = 79 mg/l Inhalation LC50 (RAT, 6 h) = 52 mg/l Inhalation LC50 (RAT, 900 d) = 88 mg/l	Blood, Cardiac, Central nervous system, Corrosive, Irritant, Kidney, Liver, Some evidence of carcinogenicity
Ethyl acetate	Oral LD50 (RAT) = 5.6 g/kg Oral LD50 (RABBIT) = 4.9 g/kg Oral LD50 (RABBIT) = 4.94 g/kg Inhalation LC50 (RAT, 6 h) = 16000 ppm	Blood, Central nervous system, Irritant
Solvent naphtha, petroleum, light aliph.	None	Irritant

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Butane	No	No	No
Acetone	No	No	No
Propane	No	No	No
Methylene chloride	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	Yes
Ethyl acetate	No	No	No
Solvent naphtha, petroleum, light aliph.	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: D001: Ignitable.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None
DOT Hazardous Substance(s): Dichloromethane, Acetone

International Air Transportation (ICAO/IATA)

Proper shipping name: Aerosols, flammable, containing substances in Division 6.1, Packing Group III
Hazard class or division: 2.1 (6.1)
Identification number: UN 1950
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: AEROSOLS (Methylene chloride)
Hazard class or division: 2.1 (6.1)
Identification number: UN 1950
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Fire
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Methylene chloride (CAS# 75-09-2).
CERCLA Reportable quantity: Butane (CAS# 106-97-8) 100 lbs. (45.4 kg)
Acetone (CAS# 67-64-1) 5,000 lbs. (2,270 kg)
Propane (CAS# 74-98-6) 100 lbs. (45.4 kg)
Methylene chloride (CAS# 75-09-2) 1,000 lbs. (454 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 08/07/2014

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Revision Number: 009.2

Issue date: 08/24/2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **Loctite® Permanent Red Threadlocker 271® - Canada**
IDH number: 303380
Product type: Anaerobic Sealant
Item number: 32243
Restriction of Use: None identified
Region: United States
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067
Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash affected area thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, and face protection.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Polyglycol dimethacrylate	Proprietary	60 - 100
Saccharin	81-07-2	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Cumene	98-82-8	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Saccharin	None	None	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Butyl rubber gloves. Natural rubber gloves. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Red
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (26.7 °C (80.1 °F))
Boiling point/range: > 148.9 °C (> 300°F)
Melting point/ range: Not available.
Specific gravity: 1.1
Vapor density: Not available.
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Flammability: Not applicable
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: 0.82 %; 7.81 g/l
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

Hazardous decomposition products: Phenolics. Oxides of sulfur. Oxides of carbon. Oxides of nitrogen. Irritating organic vapours.

Incompatible materials: Strong oxidizing agents. Strong acids. Copper. Iron. Strong reducing agents. Rust.

Reactivity: Not available.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes serious eye irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Polyglycol dimethacrylate	None	Allergen, Irritant
Saccharin	Oral LD50 (Mouse) = 17 g/kg	No Target Organs
Cumene hydroperoxide	Inhalation LC50 (Mouse, 4 h) = 200 mg/l	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Cumene	Oral LD50 (Rat) = 2.91 g/kg Oral LD50 (Rat) = 1,400 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Saccharin	No	No	No
Cumene hydroperoxide	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: RQ, Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
DOT Hazardous Substance(s): alpha,alpha-Dimethylbenzylhydroperoxide

International Air Transportation (ICAO/IATA)

Proper shipping name: RQ, Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: Reviewed SDS. Reissued with new date.

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 08/24/2016

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Revision Number: 009.1

Issue date: 07/15/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **Loctite® Permanent Red Threadlocker 271® - Canada**
IDH number: 303380
Product type: Anaerobic Sealant
Item number: 32243
Restriction of Use: None identified
Region: United States
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067
Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: CAUSES SKIN IRRITATION.
MAY CAUSE AN ALLERGIC SKIN REACTION.
CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Polyglycol dimethacrylate	Proprietary	60 - 100

Saccharin	81-07-2	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Cumene	98-82-8	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Saccharin	None	None	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Butyl rubber gloves. Natural rubber gloves. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Red
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (26.7 °C (80.1 °F))
Boiling point/range: > 148.9 °C (> 300°F)
Melting point/ range: Not available.
Specific gravity: 1.1
Vapor density: Not available.
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: 0.82 %; 7.81 g/l
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

Hazardous decomposition products: Phenolics. Oxides of sulfur. Oxides of carbon. Oxides of nitrogen. Irritating organic vapours.

Incompatible materials: Strong oxidizing agents. Strong acids. Copper. Iron. Strong reducing agents. Rust.

Reactivity: Not available.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes serious eye irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Polyglycol dimethacrylate	None	Allergen, Irritant
Saccharin	None	No Target Organs
Cumene hydroperoxide	None	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Cumene	Oral LD50 (RAT) = 2.91 g/kg Oral LD50 (RAT) = 1,400 mg/kg Inhalation LC50 (RAT, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Saccharin	No	No	No
Cumene hydroperoxide	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format. 11

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 07/15/2015

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Revision Number: 008.0

Issue date: 08/21/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **Loctite Threadlocker blue 242 Removable**

IDH number: 1700890

Product type: Anaerobic Sealant

Restriction of Use: None identified

Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN AND EYE IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2B
SKIN SENSITIZATION	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Polyglycol dimethacrylate	Proprietary	60 - 100
Polyglycol oleate	Proprietary	10 - 30
Saccharin	81-07-2	1 - 5

Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Propane-1,2-diol	57-55-6	1 - 5
Cumene	98-82-8	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store between 0 °C (32°F) and 32 °C (89.6 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Polyglycol oleate	None	None	None	None
Saccharin	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Propane-1,2-diol	None	None	10 mg/m3 TWA Aerosol.	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Blue
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (27 °C (80.6 °F))
Boiling point/range: > 149 °C (> 300.2 °F)
Melting point/ range: Not available.
Specific gravity: 1.1 at 23.9 °C (75.02 °F)
Vapor density: Not available.
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flame projection: Not applicable
Flammable/Explosive limits - lower: 2.6 % (propylene glycol)
Flammable/Explosive limits - upper: 12.5 % (propylene glycol)

Autoignition temperature:	Not determined
Evaporation rate:	Not available.
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available.
VOC content:	0.56 %; 6.17 g/l
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

Hazardous decomposition products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

Incompatible materials: Strong oxidizing agents. Free radical initiators. Strong reducing agents. Alkalis. Oxygen scavengers. Other polymerization initiators. Copper. Iron. Zinc. Aluminum. Rust.

Reactivity: Not available.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation:	Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact:	Causes skin irritation. May cause allergic skin reaction.
Eye contact:	Causes eye irritation.
Ingestion:	May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Polyglycol dimethacrylate	None	Allergen, Irritant
Polyglycol oleate	None	Irritant
Saccharin	None	No Target Organs
Silica, amorphous, fumed, crystal-free	None	Nuisance dust
Cumene hydroperoxide	None	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Propane-1,2-diol	Oral LD50 (RABBIT) = 18 g/kg Oral LD50 (RAT) = 30 g/kg	Irritant
Cumene	Oral LD50 (RAT) = 2.91 g/kg Oral LD50 (RAT) = 1,400 mg/kg Inhalation LC50 (RAT, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Polyglycol oleate	No	No	No
Saccharin	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Cumene hydroperoxide	No	No	No
Propane-1,2-diol	No	No	No
Cumene	No	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health

CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Saccharin (CAS# 81-07-2). Cumene hydroperoxide (CAS# 80-15-9).

CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 08/21/2014

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Revision Number: 007.2

Issue date: 07/08/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **Loctite® Threadlocker Green 290 Penetrating**
Product type: Anaerobic Sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 233722
Item number: 29000
Region: United States
Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN AND EYE IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2B
SKIN SENSITIZATION	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Polyglycol dimethacrylate	Proprietary	60 - 100
Cumene hydroperoxide	80-15-9	1 - 5
Saccharin	81-07-2	1 - 5

Cumene	98-82-8	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

Hazardous combustion products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Saccharin	None	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) PEL (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Green
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg (27.0 °C (80.6 °F))
Boiling point/range: > 149.0 °C (> 300.2 °F)
Melting point/ range: Not available.
Specific gravity: 1.07 at 26.70 °C (80.06 °F)
Vapor density: Not available.
Flash point: > 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: 2.27 %; 22.1 g/l
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.

Hazardous decomposition products: Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours. Phenolics.

Incompatible materials: Copper. Iron. Rust. Aluminum. Zinc. Strong oxidizing agents. Reducing agents. Oxygen scavengers. Strong acids. Strong alkalis.

Reactivity: Not available.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes eye irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Polyglycol dimethacrylate	None	Allergen, Irritant
Cumene hydroperoxide	None	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Saccharin	None	No Target Organs
Cumene	Oral LD50 (RAT) = 2.91 g/kg Oral LD50 (RAT) = 1,400 mg/kg Inhalation LC50 (RAT, 4 h) = 8000 ppm	Central nervous system, Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Cumene hydroperoxide	No	No	No
Saccharin	No	No	No
Cumene	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: RQ, Environmentally hazardous substances, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
DOT Hazardous Substance(s): alpha,alpha-Dimethylbenzylhydroperoxide

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9). Saccharin (CAS# 81-07-2).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format. 11

Prepared by: Sheila Gines, Regulatory Affairs Specialist

Issue date: 07/08/2015

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WELD - AID PRODUCTS

14650 Dequindre, Detroit, Michigan, 48212, U.S.A
Phone: (313) 883 - 6977 Fax: (313) 883 - 4930
DUNS: 00 - 653 - 3327
For Emergency Contact:
Chem-tel 1-800-255-3924

MATERIAL SAFETY DATA SHEET

I - IDENTIFICATION

PRODUCT NAME: LUBEMATIC
MATERIAL DESCRIPTION: Hazardous Blend
CHEMICAL FAMILY: Halogenated Hydrocarbons

PRODUCT CODE: 007040, 007050
REVISION DATE: 04/29/2010
DOT ID #: UN 1593

II - PRODUCT AND COMPONENT DATA

COMPONENTS	CAS REGISTRY NO.	%
1. Methylene Chloride*	75 - 09 - 2	>85%
2. Alkyl-Aryl Siloxane Copolymer	None	<15%

* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372

III - PHYSICAL DATA

APPEARANCE AND COLOR: Clear, Colorless liquid, mildly sweet odor
BOILING POINT: 103.1 (39.5°C)
VAPOR PRESSURE: 352 mm Hg @ 20°C
EVAPORATION RATE (Ether = 1): 0.7
SPECIFIC GRAVITY: 1.31 @ 25/25°C
VAPOR DENSITY IN AIR: (Air=1): 2.9
% VOLATILE BY VOLUME: 100
SOLUBILITY IN WATER: 1.32 gm/100 gm @ 25°C

IV - REACTIVITY DATA

STABILITY: Stable
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, Phosgene (sm. amt.), silicon dioxide
INCOMPATIBILITY: Strong alkalis, oxidizers, reactive material
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: Avoid contact with open flame, electric arcs, or other hot surfaces which can cause thermal decomposition.

V - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): 1. None (TCC) 2. >400 (PMCC)
EXTINGUISHING AGENTS: Water, foam, dry chemical, Carbon dioxide (CO2)
FLAMMABLE LIMITS IN AIR: 12-19% (Vol.) @ 100°C
NFPA HAZARD RATINGS: Health 2, Flammability 1 Reactivity 0
UNUSUAL FIRE AND EXPLOSION HAZARDS: Concentrated vapors can be ignited by a high intensity ignition source. Firefighters should wear self-contained, positive pressure breathing apparatus, due to thermal decomposition products.

VI - TOXICITY AND FIRST AID

EXPOSURE LIMITS: (ACGIH) - 50 ppm TWA (8hr.); (OSHA) - 25 ppm TWA (8hr.) 15 minute STEL (29 CFR 1910.1052); Odor threshold approximately 200-300 ppm (causes olfactory fatigue)
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Alcoholism, acute and chronic liver and kidney disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart.
ACUTE TOXICITY:

INHALATION - Major route of potential exposure. Methylene chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness. Nausea, headache and vomiting can occur at concentrations above 2,000 ppm. At 7,000 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death has occurred at levels above 9,000 ppm, if exposure is prolonged. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride and can cause substantial stress on the cardiovascular system. This elevation can be additive to the increase caused by smoking and other carbon monoxide sources.

SKIN: Liquid methylene chloride is painful and irritating if confined to skin by gloves, clothing, etc. Prolonged or repeated contact may cause irritation, defatting of skin, and dermatitis. Absorption through intact skin is possible if contact with liquid is prolonged.

EYES: Liquid may cause temporary irritation with temporary corneal injury. Vapors may irritate eyes.

INGESTION: Single dose toxicity low to moderate. If vomiting occurs, methylene chloride can be aspirated into lungs, which can cause chemical pneumonia and systemic effects.

FIRST AID:

INHALATION: Remove to fresh air. If breathing has stopped, administer artificial respiration. Call a physician.

SKIN: Remove contaminated clothing and shoes. Wash exposed area thoroughly with soap and water for at least 15 minutes. Wash contaminated clothing before reuse.

EYES: Flush eyes immediately with water for at least 15 minutes. If irritation persists, call a physician.

INGESTION: Do not induce vomiting. Contact physician or emergency medical facility immediately.

NOTE TO PHYSICIAN: Adrenaline should never be given to a person overexposed to methylene chloride. The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans.

Overexposure should be avoided. Failure to do so could result in injury, illness or even death. Chronic overexposures to methylene chloride have caused liver and kidney toxic effects in experimental animals.

CARCINOGENICITY: Methylene chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000 and 4,000 ppm increased the incidence of malignant liver and kidney tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250-ppm/fg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500-ppm lifetime did not show an increased incidence of tumors.

The International Agency for Research on Cancer (IARC) has concluded that, with respect to methylene chloride, there is sufficient evidence of the carcinogenicity to experimental animals and inadequate evidence of the carcinogenicity to humans, resulting in a classification as a 2B animal carcinogen. The NTP has identified methylene chloride as an animal carcinogen. Methylene chloride is listed on the IARC and NTP carcinogen lists but not by OSHA. The State of California has listed methylene chloride under Proposition 65 as a chemical known to the state to cause cancer.

Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace, of which 252 were exposed for a minimum of 20 years, did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

REPRODUCTIVE TOXICITY: Reproductive toxicity tests have been conducted to evaluate the potential adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that methylene chloride does not cause birth defects in laboratory animals.

VII - STORAGE AND HANDLING PRECAUTIONS

Follow protective controls set forth in Section VII when handling this product. Store labeled sealed containers in a cool, dry, well-ventilated area out of sunlight. Prevent water or moist air from entering storage tanks or containers. Do not cut or weld on empty or full drums. Aluminum equipment should not be used for storage and/or transfer. Contact with aluminum parts in a pressurized fluid system may cause violent reactions. Consult equipment supplier for further information. Vapors are heavier than air and will collect in low areas. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276. Do not remove or deface label. Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws.

SARA Title III Hazard Categories: Immediate Health, Delayed Health

VIII - PERSONAL PROTECTION AND CONTROLS

RESPIRATORY PROTECTION: Where vapor concentration exceeds or is likely to exceed 50-ppm methylene chloride, an approved full-face respirator with organic vapor canister is acceptable. Approved self-contained breathing apparatus or air line respirator, with full face piece, is required for methylene chloride concentrations above 1,000 ppm and for spills and/or emergencies. Follow any applicable respirator use standards and regulations.
VENTILATION: Do not use in a closed or confined space. Open doors and/or windows. Use ventilation to maintain exposure levels of methylene chloride below 50 ppm (TWA).
SKIN PROTECTION: Wear solvent-resistant gloves such as Viton, polyvinyl alcohol, or equivalent. Solvent-resistant boots, apron, headgear and/or face shield should be worn where splashing is possible.
EYE PROTECTION: Wear safety glasses. Contact lenses should not be worn. Chemical goggles and/or face shields should be worn where splashing is possible.
HYGIENE: Avoid contact with skin and avoid breathing vapors. Do not eat, drink or smoke in work area. Wash hands prior to eating, drinking, or using restroom.
OTHER CONTROL MEASURES: To determine exposure level(s), monitoring should be performed regularly. Safety shower and eyewash station should be made available.
NOTE: Protective equipment and clothing should be selected, used and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer.

IX - SPILL, LEAK AND DISPOSAL PRACTICES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate the area, ventilate, and avoid breathing vapors. Dike area to contain spill. If spill occurs indoors, turn off air conditioning and/or heating system, to prevent vapors from contaminating entire building. Clean up area (wear protective equipment - refer to Section VII) by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. Reportable Quantity (RQ) is 1,000 lbs. Notify National Response Center (800/424-8802) of uncontrolled spills in excess of RQ.
WASTE DISPOSAL METHOD: Recovered liquids may be sent to a licensed reclaimer or incineration facility. Contaminated material must be disposed of in a permitted waste management facility. Consult federal, state or local disposal authorities for approved procedures.

X - TRANSPORTATION

DOT HAZARD CLASSIFICATION: Dichloromethane, 6.1, UN 1593, PG III
PLACARD REQUIRED: Keep away from food, 1593, Class 6
LABEL REQUIRED: Keep away from food, Class 6
Label as required by OSHA Hazard Communication Standard, and any applicable state and local regulations.

This sheet was compiled from the latest available information and reliable sources. Procedures are based on accepted usage. They are not necessarily all-inclusive and may vary in every circumstance. Weld-Aid provides no warranties either expressed or implied and assumes no responsibility for the accuracy or completeness of the data herein.

MSDS 0076710

Print | Go Back | All MSDS

7671: Lubriplate Grease No.105 10 Oz [4]
MSDS Last updated: 12/31/2013

Material Safety Data Sheet | |
Date of issue: |Revision Date: 08/07/2012 |Revision Number:
Imperial Supplies Part Number: 0076710
1. PRODUCT AND COMPANY IDENTIFICATION
Manufacturer:
LUBRIPLATE® Lubricants Co.
129 Lockwood St. Newark,
NJ 07105
Telephone: 1-973-589-9150
Emergency Phone: 1-800-255-3924-CHEM-TEL (24 hour)

Product Name: LUBRIPLATE No. 105
Product Code(s): 0892150034001
Recommended Use: Petroleum lubricating grease
UN-Number:
Product Type:

2. HAZARDS IDENTIFICATION

Appearance: smooth |Physical State: solid |Odor: mineral oil odor

Potential Health Effects
Principle Routes of Exposure

Acute Effects:

Eyes	|SHORT TERM EXPOSURE: Irritation
	|LONG TERM EXPOSURE: No information available
Skin	|SHORT TERM EXPOSURE: Irritation
	|LONG TERM EXPOSURE: Irritation, skin disorders
Inhalation	|SHORT TERM EXPOSURE: Irritation
	|LONG TERM EXPOSURE: Lung damage
Ingestion	|SHORT TERM EXPOSURE: Diarrhea, difficulty breathing
	|LONG TERM EXPOSURE: no information on significant
	|adverse effects

Notes:

Chronic Effects:

Eyes	|
Skin	|
Inhalation	|
Ingestion	|

Notes:

Aggravated Medical Conditions

Environmental Hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical/Ingredient Name	CAS-No	Weight%	ACGIH, TLV-TWA	OSHA-PEL	Other
Heavy hydrotreated naphthenic distillates (petroleum)	64742-52-5	85-90			
Fatty acid	8016-28-2	5-10			
Zinc oxide	1314-13-2	0-5			
Calcium hydroxide	1305-62-0	0-1			
Proprietary additive package	NA	0-1			
Sodium hydroxide	1310-73-2	0-1			

Notes: The IP 346 value of the mineral oil is less than 3%

4. FIRST AID MEASURES

General Advice	
Eyes	Flush with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.
Skin	Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance or its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of the body.
Inhalation	Vapor pressure is very low and inhalation at room temperature is not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician.
Ingestion	If ingested, call a physician immediately. Do not induce vomiting.
Notes to Physician	
Protection of First-aiders	
Notes	

5. FIRE-FIGHTING MEASURES

Flammability/Flammable properties	
Flash point	
Recommended Extinguishing Media	Foam, Dry Chemical, Carbon Dioxide or Water Spray (Fog)
Special Fire-Fighting Procedures	Cool exposed containers with water. Use air-supplied breathing equipment for enclosed or confined spaces.
Explosion Data	Slight fire hazard UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not store or mix with strong oxidants. Empty containers retain residue. Do not cut, drill, grind, or weld, as they may explode.
Sensitivity to Mechanical Impact	
Sensitivity to Static Discharge	
Specific Hazards from Chemical	
Protective Equipment	

NFPA	Health Hazard:	Flammability:	Instability:	Physical Hazard
HMIS	Health Hazard:	Flammability:	Physical Hazard: 0	PPE:
	1	1		

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Environmental Precautions
Methods for Containment
Methods for Cleaning Up
Notes: Scrape up grease, wash remainder with suitable petroleum solvent or add absorbent. Keep petroleum products out of sewers and water courses. Advise authorities if product has entered or may enter sewers and water courses.

7. HANDLING AND STORAGE

Handling
Storage: Keep containers closed when not in use. Do not handle or store near heat, sparks, flame, or strong oxidants.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	OTHER
OIL MIST IN AIR (Not Encountered in Normal Usage)	TWA 5 mg/m3	STEL 10 mg/m3		

Engineering Measures

Personal Protective Equipment

Eyes/Face Protection	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and Body Protection	CLOTHING: Wear appropriate chemical resistant clothing. GLOVES: Wear appropriate chemical resistant (nitrile) gloves.
Respiratory Protection	Consider the need for appropriate protective equipment, such as self-contained breathing apparatus, adequate masks and filters.
Ventilation/Other	Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Hygiene Measures

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	smooth	Odor	mineral oil odor
Odor Threshold		Physical State	solid
Color	off-white	Viscosity	not available
pH	not available	Percent Volatile, wt. %	
Flash Point	182°C(COC)	Auto-ignition Temperature	not available
Decomposition		Boiling Point/ Range	>288°C

Temp			
Melting Point/Range		Freezing Point	Not available
Flammability		Explosion Limits	
Specific Gravity	0.89	Water Solubility	negligible
Solubility		Evaporation Rate	<0.01 (Butyl acetate = 1)
Vapor Pressure	not available	Vapor Density	not available
VOC content, wt. %			

Notes

10. STABILITY AND REACTIVITY

Chemical Stability	Stable at normal temperatures and pressures
Incompatible Products	Oxidising materials, chlorine
Conditions to avoid	Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.
Hazardous Decomposition Products	Thermal decomposition products or combustion: oxides of carbon, oxides of sulphur
Hazardous Polymerization	Will not polymerise.

Notes

11. TOXICOLOGY INFORMATION

Acute Toxicity: Low order of dermal and oral toxicity

Product Information	
Inhalation	
Eye Contact	
Skin Contact	
Ingestion	

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fatty Acid	No data Available		
Zinc oxide	No data Available		
Calcium hydroxide	No data Available		
Proprietary additive package	No data Available		
Inedible animal grease	No data Available		
Sodium Hydroxide	No data Available		

Chronic Toxicity|

Chemical Name	ACGIH	IARC	NTP	OSHA

Target Organ Effects

12. ECOLOGICAL INFORMATION

Ecotoxicity

The Environmental impact of this product has been fully investigated

Chemical Name	Toxicity to Algea	Toxicity to Fish	Tox, to Microorganisms	Daphnia Magna (water flea)

Notes: Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Contaminated Packaging

US EPA Waste number

Notes: Dispose in accordance with all applicable regulations

14. TRANSPORTATION INFORMATION

DOT
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
Description |
Emergency Response |
Guide Number |

TDG
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
Description |

MEX |
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
Description |

ICAO: No classification assigned.
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
Description |

IATA: No classification assigned.
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
ERG Code |
Description |

IMDG/IMO: No classification assigned.
UN-Number |
Proper Shipping name|
Hazard Class |
Packing Group |
EmS No. |
Description |

RID: No classification assigned.
UN-Number |
Proper Shipping |
name |
Hazard Class |
Packing Group |
Classification Code|
Description |
ADR/RID-Labels |

ADR: No classification assigned.
UN-Number |
Proper Shipping |
name |
Hazard Class |
Packing Group |
Classification Code|
Description |
ADR/RID-Labels |

ADN
UN-Number
Proper Shipping name
Hazard Class
Packing Group
Classification Code
Special Provisions
Description
Hazard Labels
Limited Quantity

15. REGULATORY INFORMATION

International Inventories
TSCA
DSL
EINECS
ENCS
IECSC
PICCS
AICS

U.S. Federal Regulations
SARA 313
SARA 311/312 Hazard Categories
Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard
Reactive Hazard

Clean Water Act

CERCLA

U.S. State Regulations

U.S. State Right-to-Know Regulations

International Regulations: EUROPEAN REGULATIONS: EC CLASSIFICATIONS (CALCULATED): N
Risk Phrases: R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Canada: Not a controlled under (WHMIS) - Canada

16. OTHER INFORMATION

Prepared By:
Revision Date: 08/07/2012
Company: LUBRIPLATE® Lubricants Co.
Revision number
Telephone number: 1-973-589-9150

Notes: The above information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of LUBRIPLATE Lubricants Company. The data on these sheets relates only to the specific material designated herein. LUBRIPLATE Lubricants Company assumes no legal responsibility for use or reliance upon this data.

Other Information

Disclaimer information

END OF MATERIAL SAFETY DATA SHEET

The information contained in this MSDS was obtained from current and reliable sources, however, the data is provided without any warrenty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of Imperial Supplies LLC, Imperial will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this ' dfmt ' shall be created or inferred by any statement in this ' dfmt '. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this 'dfmt '. The user is responsible for full compliance.

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Lysol® I.C. Brand III Disinfectant Spray

HEALTH • HYGIENE • HOME

1. Product and company identification

Product name : Lysol® I.C. Brand III Disinfectant Spray

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Disinfectant.
Professional use

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D0313648 v5.0

Formulation #: : 1589-023 (0271639 v1.0)

EPA ID No. : 777-99-675

UPC Code / Sizes : 36241-95029-08 (19 oz. Aerosol Can)

2. Hazards identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable aerosol.
Pressurized container: may burst if heated.

Precautionary statements

2. Hazards identification

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source.

Response : Not applicable.

Storage : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Ethyl alcohol	30 - 60	64-17-5
butane	1 - 5	106-97-8
propane	< 2.5	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl alcohol	**ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.
butane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 800 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 6/2013).** STEL: 1000 ppm 15 minutes.
propane	**OSHA PEL 1989 (United States, 3/1989).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aerosol.]

Color : Clear.

Odor : Characteristic.

Odor threshold : Not available.

pH : 10.8 to 11.8 [Conc. (% w/w): 100%]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 25.6°C (78.1°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.8667 to 0.8967 g/cm³ [20 to 25°C]

Solubility : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Aerosol product

Type of aerosol : Spray

9. Physical and chemical properties

Heat of combustion : 17.99 kJ/g

Ignition distance : <45.72 cm

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : Do not mix with household chemicals.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
*Lysol I.C. Brand III Disinfectant Spray	LC50 Inhalation Vapor	Rat	>2.12 mg/l	4 hours Maximum attainable concentration

Conclusion/Summary : Not classified Harmful. *Information is based on toxicity test result of the concentrate of a similar product.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethyl alcohol	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
*Lysol I.C. Brand III Disinfectant Spray	Eyes - Cornea opacity	Rabbit	< 1	72 hours	4 days
	Skin - Primary dermal irritation index (PDII)	Rabbit	0.3	4 hours	72 hours

Conclusion/Summary

Skin : Slightly irritating to the skin. *Information is based on toxicity test result of the concentrate of a similar product.

Eyes : Moderately irritating to eyes. *Information is based on toxicity test result of the concentrate of a similar product.

Sensitization

11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ethyl alcohol	-	1	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause eye irritation upon direct contact with eyes.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethyl alcohol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water	Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae	96 hours 48 hours 48 hours 4 days 96 hours 12 weeks

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethyl alcohol	-0.35	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
TDG Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
Mexico Classification	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IMDG Class	UN1950	Aerosols, flammable	2.1	-		Limited quantity
IATA-DGR Class	UN1950	Aerosols, flammable	2.1	-		See DG List

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR**: 2-methylpropan-2-ol; 2-(4-tert-butylbenzyl)propionaldehyde

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): Not determined.

Clean Water Act (CWA) 311: ammonia

Clean Air Act (CAA) 112 regulated flammable substances: butane; propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

15. Regulatory information

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl alcohol	30 - 60	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: ETHYL ALCOHOL; BUTANE; PROPANE

New York : None of the components are listed.

New Jersey : The following components are listed: ETHYL ALCOHOL; ALCOHOL; BUTANE; PROPANE

Pennsylvania : The following components are listed: DENATURED ALCOHOL; BUTANE; PROPANE

Label elements

Signal word: : CAUTION

Hazard statements : Causes moderate eye irritation

Precautionary measures : Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Wash with soap and water.

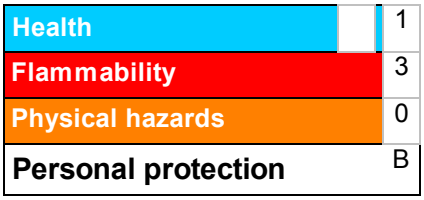
Keep out of the reach of children.
CONTENTS UNDER PRESSURE. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120 °F. Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Hazard statements :

Flammable

16. Other information

Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

NFPA (30B) aerosol Flammability Level 1

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Date of issue : 26/06/2015.

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Version : 5

16. Other information

Prepared by : Reckitt Benckiser LLC.
Product Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

Revision comments : Revision as per US GHS. Correction to NFPA 30B level.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

CSPA Product Care®

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Safety Data Sheet

Document Group:	26-6716-0	**Version Number:**	3.00
Issue Date:	03/20/15	**Supercedes Date:**	07/02/12

SECTION 1: Identification

1.1. Product identifier
M06, Mirror Glaze Liquid Cleaner Wax (21-151A):, M0616, M0664

Product Identification Numbers
14-1000-1159-3, 14-1000-1160-1, 14-1000-1161-9

1.2. Recommended use and restrictions on use

Recommended use
Automotive, One-step application that cleans, polishes and protects

1.3. Supplier's details

MANUFACTURER:	Meguiar's, Inc.
DIVISION:	Meguiar's
ADDRESS:	17991 Mitchell South, Irvine, CA 92614, USA
Telephone:	949-752-8000 (Fax: 949-752-5784)

1.4. Emergency telephone number
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Skin Corrosion/Irritation: Category 2.
Specific Target Organ Toxicity (central nervous system): Category 3.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Wash thoroughly after handling.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

1% of the mixture consists of ingredients of unknown acute oral toxicity.
9% of the mixture consists of ingredients of unknown acute dermal toxicity.
19% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Water	7732-18-5	60 - 90 Trade Secret *
Petroleum Distillate	64742-48-9	10 - 30 Trade Secret *
Petroleum Distillate	64742-47-8	3 - 7 Trade Secret *
Conditioners	Trade Secret*	< 5 Trade Secret *
Calcined Kaolin	92704-41-1	1 - 5 Trade Secret *
Poly(Dimethylsiloxane)	63148-62-9	1 - 5 Trade Secret *
White Mineral Oil (Petroleum)	8042-47-5	0.1 - 1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Irritant Vapors or Gases	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., Skin Notation
Petroleum Distillate	64742-47-8	CMRG	TWA:165 ppm	
Naphtha	64742-48-9	OSHA	TWA:400 mg/m3(100 ppm)	
Petroleum Distillate	64742-48-9	Manufacturer determined	TWA:100 ppm	
MINERAL OILS, HIGHLY-REFINED OILS	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Paraffin oil	8042-47-5	OSHA	TWA(as mist):5 mg/m3	
White Mineral Oil (Petroleum)	8042-47-5	CMRG	TWA:5 mg/m3;STEL:10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Sweet odor; Creamy, ivory liquid
Odor threshold	*No Data Available*
pH	8.5 - 9.2
Melting point	*Not Applicable*
Boiling Point	390 ºF
Flash Point	200 ºF [*Test Method:* Pensky-Martens Closed Cup] [*Details:* D93-90]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density	*No Data Available*
Density	.96 g/cm3
Specific Gravity	0.96 [*Ref Std:* WATER=1]
Solubility in Water	Moderate
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*

Viscosity	23,000 - 33,000 centipoise
Volatile Organic Compounds	14.66 % weight
Volatile Organic Compounds	203.14 g/l
VOC Less H2O & Exempt Solvents	517.96 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong acids
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Petroleum Distillate	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Petroleum Distillate	Dermal	Rabbit	LD50 > 3,000 mg/kg
Petroleum Distillate	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcined Kaolin	Ingestion	Rat	LD50 > 2,000 mg/kg
Petroleum Distillate	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3.0 mg/l
Petroleum Distillate	Ingestion	Rat	LD50 > 5,000 mg/kg
Poly(Dimethylsiloxane)	Dermal	Rabbit	LD50 > 19,400 mg/kg
Poly(Dimethylsiloxane)	Ingestion	Rat	LD50 > 17,000 mg/kg
White Mineral Oil (Petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
White Mineral Oil (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Petroleum Distillate	Rabbit	Irritant
Petroleum Distillate	Rabbit	Mild irritant
Poly(Dimethylsiloxane)	Rabbit	No significant irritation
White Mineral Oil (Petroleum)	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Petroleum Distillate	Rabbit	No significant irritation
Petroleum Distillate	Rabbit	Mild irritant
Poly(Dimethylsiloxane)	Rabbit	No significant irritation
White Mineral Oil (Petroleum)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Petroleum Distillate	Guinea pig	Not sensitizing
Petroleum Distillate	Guinea pig	Not sensitizing
White Mineral Oil (Petroleum)	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Petroleum Distillate	In vivo	Not mutagenic
Petroleum Distillate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillate	In Vitro	Not mutagenic
White Mineral Oil (Petroleum)	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Petroleum Distillate	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillate	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillate	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
White Mineral Oil (Petroleum)	Dermal	Mouse	Not carcinogenic
White Mineral Oil (Petroleum)	Inhalation	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	Not toxic to development	Rat	NOAEL 2.4 mg/l	during organogenesis
White Mineral Oil (Petroleum)	Ingestion	Not toxic to female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not toxic to male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not toxic to development	Rat	NOAEL 4,350 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Petroleum Distillate	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours
Petroleum Distillate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4.6 mg/l	6 months
Petroleum Distillate	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.9 mg/l	13 weeks
Petroleum Distillate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.6 mg/l	90 days
Petroleum Distillate	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5.6 mg/l	12 weeks
Petroleum Distillate	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1.3 mg/l	90 days
White Mineral Oil (Petroleum)	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,381 mg/kg/day	90 days
White Mineral Oil (Petroleum)	Ingestion	liver | immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,336 mg/kg/day	90 days

Aspiration Hazard

Name	Value
Petroleum Distillate	Aspiration hazard
Petroleum Distillate	Aspiration hazard
White Mineral Oil (Petroleum)	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

General Transportation Statement This product does not require classification by DOT, IATA, ICAO or IMDG.

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact manufacturer for more information
311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact manufacturer for more information

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact manufacturer for more information

15.4. International Regulations

Contact manufacturer for more information

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 2 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Issue Date:	03/20/15	**Supercedes Date:**	07/02/12

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Safety Data Sheet

Document Group:	28-6174-8	**Version Number:**	5.00
Issue Date:	03/20/15	**Supercedes Date:**	07/03/12

SECTION 1: Identification

1.1. Product identifier
M09, Swirl Remover (21-165A): M0901, M0916

Product Identification Numbers
14-1000-1170-0, 14-1000-1171-8, 14-1000-1172-6

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Swirl remover/polish

1.3. Supplier's details

MANUFACTURER:	Meguiar's, Inc.
DIVISION:	Meguiar's
ADDRESS:	17991 Mitchell South, Irvine, CA 92614, USA
Telephone:	949-752-8000 (Fax: 949-752-5784)

1.4. Emergency telephone number
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: Hazard identification

The label elements below were prepared in accordance with OSHA Hazard Communication Standard, 29 CFR 1910.1200. This information may be different from the actual product label information for labels regulated by other agencies.

2.1. Hazard classification
Skin Corrosion/Irritation: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
Causes skin irritation.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Wear protective gloves.
Wash thoroughly after handling.

Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

2.3. Hazards not otherwise classified
None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.
10% of the mixture consists of ingredients of unknown acute dermal toxicity.
19% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Water	7732-18-5	50 - 70 Trade Secret *
Petroleum Distillate	64742-48-9	10 - 30 Trade Secret *
Calcined Kaolin	92704-41-1	3 - 7 Trade Secret *
Conditioners	Trade Secret*	< 5 Trade Secret *
White Mineral Oil (Petroleum)	8042-47-5	1 - 5 Trade Secret *
Glycerin	56-81-5	1 - 5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Irritant Vapors or Gases	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Glycerin	56-81-5	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Naphtha	64742-48-9	OSHA	TWA:400 mg/m3(100 ppm)	
Petroleum Distillate	64742-48-9	Manufacturer determined	TWA:100 ppm	
MINERAL OILS, HIGHLY-REFINED OILS	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Paraffin oil	8042-47-5	OSHA	TWA(as mist):5 mg/m3	
White Mineral Oil (Petroleum)	8042-47-5	CMRG	TWA:5 mg/m3;STEL:10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Neoprene

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Pleasant, sweet odor; White, viscous lotion
Odor threshold	*No Data Available*
pH	7.9 - 8.5
Melting point	*Not Applicable*
Boiling Point	380 ºF
Flash Point	>= 200 ºF [*Test Method:* Pensky-Martens Closed Cup] [*Details:* D93-90]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density	*No Data Available*
Density	0.98 g/cm3
Specific Gravity	0.98 [*Ref Std:* WATER=1]
Solubility in Water	Moderate
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	7,000 centipoise - 12,000 centipoise
Volatile Organic Compounds	15.40 % weight
VOC Less H2O & Exempt Solvents	545.41 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Temperatures above the boiling point

10.5. Incompatible materials
Strong acids
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Petroleum Distillate	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Petroleum Distillate	Dermal	Rabbit	LD50 > 3,000 mg/kg
Petroleum Distillate	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcined Kaolin	Ingestion	Rat	LD50 > 2,000 mg/kg
White Mineral Oil (Petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
White Mineral Oil (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Glycerin	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg
Glycerin	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Petroleum Distillate	Rabbit	Irritant
White Mineral Oil (Petroleum)	Rabbit	No significant irritation
Glycerin	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Petroleum Distillate	Rabbit	No significant irritation
White Mineral Oil (Petroleum)	Rabbit	Mild irritant
Glycerin	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Petroleum Distillate	Guinea pig	Not sensitizing
White Mineral Oil (Petroleum)	Guinea pig	Not sensitizing
Glycerin	Guinea pig	Not sensitizing

Respiratory Sensitization
For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Petroleum Distillate	In vivo	Not mutagenic
Petroleum Distillate	In Vitro	Some positive data exist, but the data are not sufficient for classification
White Mineral Oil (Petroleum)	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Petroleum Distillate	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillate	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
White Mineral Oil (Petroleum)	Dermal	Mouse	Not carcinogenic

White Mineral Oil (Petroleum)	Inhalation	Multiple animal species	Not carcinogenic
Glycerin	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	Not toxic to development	Rat	NOAEL 2.4 mg/l	during organogenesis
White Mineral Oil (Petroleum)	Ingestion	Not toxic to female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not toxic to male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not toxic to development	Rat	NOAEL 4,350 mg/kg/day	during gestation
Glycerin	Ingestion	Not toxic to female reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerin	Ingestion	Not toxic to male reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerin	Ingestion	Not toxic to development	Rat	NOAEL 2,000 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillate	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 6.5 mg/l	4 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Petroleum Distillate	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 4.6 mg/l	6 months
Petroleum Distillate	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.9 mg/l	13 weeks
Petroleum Distillate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.6 mg/l	90 days
Petroleum Distillate	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	All data are negative	Rat	NOAEL 5.6 mg/l	12 weeks
Petroleum Distillate	Inhalation	heart	All data are negative	Multiple animal species	NOAEL 1.3 mg/l	90 days

White Mineral Oil (Petroleum)	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,381 mg/kg/day	90 days
White Mineral Oil (Petroleum)	Ingestion	liver | immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,336 mg/kg/day	90 days
Glycerin	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Inhalation	heart | liver | kidney and/or bladder	All data are negative	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Ingestion	endocrine system | hematopoietic system | liver | kidney and/or bladder	All data are negative	Rat	NOAEL 10,000 mg/kg/day	2 years

Aspiration Hazard

Name	Value
Petroleum Distillate	Aspiration hazard
White Mineral Oil (Petroleum)	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

General Transportation Statement This product does not require classification by DOT, IATA, ICAO or IMDG.

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact manufacturer for more information
311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations
Contact manufacturer for more information

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact manufacturer for more information

15.4. International Regulations
Contact manufacturer for more information

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	28-6174-8	**Version Number:**	5.00
Issue Date:	03/20/15	**Supercedes Date:**	07/03/12

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MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352
Ecolab Vehicle Care Division
Ecolab Center St. Paul MN 55102
Product Information: 1-877-ECOWASH Issue Date: March 8, 2000

1.0 IDENTIFICATION / 30007240 / 30007243 / 30007245

1.1 Product Name: MA-3 SHAMPOO
1.2 Product Type: Carwash detergent
1.3 Hazard Rating: Health: 1 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

	CAS No.	%	PEL (mg/m3)	TWA (mg/m3)
2.1 Anionic Surfactant	mixture	5-20	No	No

STEL = ACGIH short term exp. limit (15 min) PEL = OSHA 8 hr ave in air
TWA = ACGIH 8 hr average C = ceiling limit in air, do not exceed

3.0 PHYSICAL DATA /

3.1 Appearance: Clear blue liquid; odorless
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 12.5-13.0 (100%); 10.1-10.7 (1%)
3.4 Initial Boiling Point: 212 deg F
3.5 Specific Gravity: 1.031 @ 68 deg F

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Use method appropriate to surrounding fire.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Oxidizing and reducing agents

6.0 SPILL OR LEAK PROCEDURES / WEAR PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills; pump to containers or soak up on inert absorbent. Flush residue to sanitary sewer; rinse area.
6.2 Waste Disposal: Consult state/local authority for limits on chemical waste disposal.

Product: MA-3 SHAMPOO
Ecolab Vehicle Care Division
MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: May cause irritation.
Skin: Prolonged or repeated contact will defat skin and cause mild irritation.
If Swallowed: Irritation of stomach, nausea.
If Inhaled: May cause irritation of respiratory tract.

8.0 FIRST AID /

8.1 Eyes: Flush at once with cool running water. Remove contact lenses and continue flushing for 15 minutes, holding eyelids apart so as to rinse entire eye. If irritation persists, call a physician.
8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Discard or wash before reuse. If irritation persists, call a physician.
8.3 If Inhaled: Remove to fresh air.
8.4 If Swallowed: Rinse mouth at once; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person.

IF IRRITATION OR DISCOMFORT, SEE A PHYSICIAN

9.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE:
Eyes: Wear chemical splash goggles.
Skin: Wear any industrial rubber glove.
Respiratory: Avoid breathing mists or vapors of this product.

10.0 ADDITIONAL INFORMATION /

10.1 DOT: Not Regulated.
10.2 Purpose of 3/8/2000 issue: First issue in present format.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

Safety Data Sheet

Printing date 12/01/2015 Revised On 12/01/2015

1 Identification of the substance and manufacturer

Trade name: **MACHINERY LIGHT GRAY**

Product code: BD13360000

Manufacturer/Supplier: Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178
Phone: 815-895-9101 www.seymourpaint.com

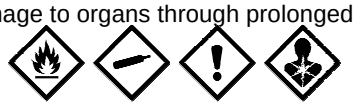
Emergency telephone number: CHEMTEL 1-800-255-3924, or 813-248-0585.

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1	H222	Extremely flammable aerosol.
Press. Gas	H280	Contains gas under pressure; may explode if heated.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Repr. 2	H361	Suspected of damaging fertility or the unborn child.
STOT SE 3	H336	May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS Hazard pictograms



GHS02 GHS04 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
Toluene
Acetone
titanium dioxide
methyl isobutyl ketone

Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.
Do not breathe dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Protect from sunlight. Store in a well-ventilated place.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Physical dangers:

Effects of chronic overexposure: May cause permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart, and blood. Intentional misuse by deliberately inhaling the contents may be harmful or fatal.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	37.12%
74-98-6	propane	15.76%
108-88-3	Toluene	11.65%
106-97-8	n-butane	9.26%
13463-67-7	titanium dioxide	3.75%
108-10-1	methyl isobutyl ketone	2.3%
107-87-9	Methyl Propyl Ketone	1.94%
2807-30-9	Glycol Ether EP	1.52%

(Contd. on page 2)

Safety Data Sheet

Printing date 12/01/2015 Revised On 12/01/2015

Trade name: MACHINERY LIGHT GRAY

(Contd. of page 1)

110-19-0	isobutyl acetate	1.24%

4 First-aid measures

Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Information for doctor:

Most important symptoms and effects: Dizziness

Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards: Can form explosive gas-air mixtures.

Protective equipment for firefighters: A respiratory protective device may be necessary.

Additional information Cool endangered receptacles with water spray.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Environmental precautions: Do not allow product to reach sewage systems or ground water.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.

Fire/explosion protection: Do not spray on a naked flame or any incandescent material. Do not smoke. Protect from electrostatic discharges.

Conditions for safe storage:

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

67-64-1 Acetone

PEL	Long-term value: 2400 mg/m³, 1000 ppm
REL	Long-term value: 590 mg/m³, 250 ppm
TLV	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI

74-98-6 propane

PEL	Long-term value: 1800 mg/m³, 1000 ppm
REL	Long-term value: 1800 mg/m³, 1000 ppm
TLV	refer to Appendix F inTLVs and BEIs book

108-88-3 Toluene

PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 75 mg/m³, 20 ppm BEI

106-97-8 n-butane

REL	Long-term value: 1900 mg/m³, 800 ppm
TLV	Short-term value: 2370 mg/m³, 1000 ppm

108-10-1 methyl isobutyl ketone

PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI

(Contd. on page 3)

Safety Data Sheet

Trade name: MACHINERY LIGHT GRAY

(Contd. of page 2)

107-87-9 Methyl Propyl Ketone	
PEL	Long-term value: 700 mg/m³, 200 ppm
REL	Long-term value: 530 mg/m³, 150 ppm
TLV	Short-term value: 529 mg/m³, 150 ppm
110-19-0 isobutyl acetate	
PEL	Long-term value: 700 mg/m³, 150 ppm
REL	Long-term value: 700 mg/m³, 150 ppm
TLV	Short-term value: NIC-712 mg/m³, NIC-150 ppm Long-term value: (713) NIC-238 mg/m³, (150) NIC-50 ppm

Ingredients with biological limit values:

67-64-1 Acetone	
BEI	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)
108-88-3 Toluene	
BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene 0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene 0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)
108-10-1 methyl isobutyl ketone	
BEI	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Exposure controls

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

General Information:

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47 °F)

Flash point: -19 °C (-2 °F)

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: Stable at normal temperatures. Can may burst when exposed to temperatures exceeding 120 degrees fahrenheit.
In use, may form flammable/explosive vapour-air mixture.

Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: 40 PSI 2750 hPa
Vapor Pressure: 40 PSI, 2750 hPa
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapour density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.
Dynamic: Not determined.
Kinematic: Not determined.

VOC content: 537.6 g/l / 4.49 lb/gl

(Contd. on page 4)

Safety Data Sheet

Printing date 12/01/2015 Revised On 12/01/2015

Trade name: MACHINERY LIGHT GRAY

(Contd. of page 3)

VOC content (less exempt solvents): 44.9 %
MIR Value: 1.08
Solids content: 17.8 %

10 Stability and reactivity

Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:

106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
13463-67-7 titanium dioxide		
Oral	LD50	>20000 mg/kg (rat)
Dermal	LD50	>10000 mg/kg (rbt)
Inhalative	LC50/4 h	>6.82 mg/l (rat)
108-10-1 methyl isobutyl ketone		
Oral	LD50	2100 mg/kg (rat)
Dermal	LD50	16000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)
110-19-0 isobutyl acetate		
Oral	LD50	4763 mg/kg (rbt)

Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

IARC (International Agency for Research on Cancer)

108-88-3	Toluene	3
13463-67-7	titanium dioxide	2B
108-10-1	methyl isobutyl ketone	2B

NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

Toxicity
Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), or chlorinated solvents.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Waste treatment methods
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
UN proper shipping name:
DOT Consumer Commodity ORM-D
AEROSOLS, flammable
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --

15 Regulatory information

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

(Contd. on page 5)

Safety Data Sheet

Printing date 12/01/2015 Revised On 12/01/2015

Trade name: MACHINERY LIGHT GRAY

(Contd. of page 4)

California Proposition 65 chemicals known to cause cancer:	
13463-67-7	titanium dioxide
108-10-1	methyl isobutyl ketone
1333-86-4	Carbon black
100-41-4	ethyl benzene

California Proposition 65 chemicals known to cause developmental toxicity: 108-88-3 Toluene

CANADIAN ENVIRONMENTAL PROTECTION ACT: All hazardous ingredients for this product appear on the Canadian Domestice Substance List.

WHMIS Symbols for Canada: A - Compressed gas
D2A - Very toxic material causing other toxic effects

EPA:		
67-64-1	Acetone	I
108-88-3	Toluene	II
108-10-1	methyl isobutyl ketone	I
110-19-0	isobutyl acetate	D

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.
Do not breathe dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Protect from sunlight. Store in a well-ventilated place.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This product was manufactured in the U.S.A.
The information on this sheet is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Contact: Regulatory Affairs
Date of preparation / last revision 12/01/2015 / -

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION.

Rycoline Products LLC
5540 Northwest Highway
Chicago, IL 60630
773/775-6755
CHEMICAL EMERGENCY HOTLINE 800-424-9300

ITEM NUMBER: 126700 55M
ITEM DESCRIPTION: **MagniTek Low Odor WM Blanket and Roller Wash (55gl)**
PRODUCT DESCRIPTION: Solvent
CHEMICAL FAMILY: Petroleum Hydrocarbon
REVISION DATE: 06/18/04

SECTION 2 - COMPOSITION INFORMATION ON INGREDIENTS

COMPONENT/CAS #	ACGIH TLV	OSHA PEL	% WT	NOTES
AROMATIC SOLVENT 100				
64742 95 6	N/E	N/E	<25	
THIS MATERIAL CONTAINS:				
Xylenes(1330 20 7)(3 4-)	100 PPM	100 PPM		
1,2,4 Trimethylbenzene (95 63 6)				
(35 40-)	25 PPM	25 PPM		
Cumene (98 82 8)(1 3-)	50 PPM (skin)	50 PPM		
ALIPHATIC SOLVENT NAPHTHA				
64742-89-8	500 PPM	100 PPM	<85	
PEL and TLV information on Aliphatic Solvent Naphtha is for Stoddard Solvent.				

HAZARDOUS IDENTIFICATION CODE: U.S.

NFPA RATING:		HMIS RATING:	
HEALTH:	1	HEALTH:	1
FLAMMABILITY:	2	FLAMMABILITY:	2
REACTIVITY:	0	REACTIVITY:	0

SCALE: 0 no hazard, 1 minimal, 2 moderate, 3 high, 4 extreme
HMIS - Hazardous Materials Identification System
NFPA National Fire Protection Association
(Personal Protection Rating to be supplied by user depending on use conditions.)

SECTION 3 - PHYSICAL CHEMICAL PROPERTIES

FLASH POINT (Method, T.C.C.): 105 deg. F
APPEARANCE AND ODOR: Clear water white liquid, aromatic odor
pH: Not Applicable
SPECIFIC GRAVITY (water = 1.00): 0.791
VAPOR PRESSURE (mmHG @ 68 deg. F): Not Available
VAPOR DENSITY (air=1): Not Available
ODOR THRESHOLD: Not Available
BOILING POINT: Not Available
MELTING/FREEZING POINT: Not Available
COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Available
SOLUBILITY IN WATER: Emulsifiable
EVAPORATION RATE (n-butyl acetate = 1.00): Not Available
PERCENT VOLATILITY BY WEIGHT (including water): 99.5
VOC (lbs./gal): 6.56 (99.5%)

ITEM NUMBER: 128700-55M
ITEM DESCRIPTION: **MagniTek Low Odor WM Blanket and Roller Wash (55gl)**
REVISION DATE: 06/18/04

SECTION 4 - HEALTH HAZARDS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: eyes, skin and inhalation
EYE CONTACT: Moderate irritation on contact, vapors may also be irritating.
SKIN CONTACT: May cause reddening and mild irritation.
SKIN ABSORPTION: This product is not expected to be harmful if absorbed through the skin.
INHALATION: Irritating to the nose and throat, and may cause headaches, central nervous system depression and nausea.
INGESTION: Irritating to the digestive tract and may cause headaches, central nervous system depression and nausea.
CHRONIC EFFECTS OF OVEREXPOSURE: Repeated skin contact may cause dryness and mild irritation.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting skin conditions and lung disorders.
CARCINOGEN SUSPECT: The contents of this product are NOT found on the following lists: OSHA Z LIST, NTP, IARC.

California Safe Drinking Water and Toxic Enforcement Act 1986(Proposition 65):

WARNING: This product contains chemical(s) known to the State of California to cause cancer and reproductive harm. This product contains trace amounts of benzene and toluene.

SECTION 5 - ACCIDENTAL RELEASE INFORMATION

1. Remove all ignition sources.
2. Ventilate area of spill or leak.
3. For small quantities, absorb on paper towels. Evaporate in a safe place (such a fume hood). Allow sufficient time for evaporating vapors to completely clear the hood and ductwork. Burn the papers in a suitable location away from combustible materials. Petroleum distillates should not be allowed to enter a confined space, such as a sewer, because of the possibility of an explosion.

If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center at 800 424 8802. If spill in excess of the EPA reportable quantity is released off site to air, water or land, immediately notify the National Response Center.

SECTION 6 - FIRST-AID PROCEDURES

EYE CONTACT: Immediately flush with water for at least 15 minutes. Remove contact lenses. Get medical attention.
SKIN CONTACT: Remove all contaminated clothing. Wash skin with soap and water. Get medical attention if indicated.
INHALATION: Remove victim to fresh air. Give artificial respiration or oxygen if needed. Get medical attention if indicated.
INGESTION: If this product is swallowed, call a physician or poison control center immediately. For quick response, the individual should drink milk or large quantities of water. Only induce vomiting as directed by medical personnel. NEVER give anything by mouth to an unconscious person.

ITEM NUMBER: 128700-55M
ITEM DESCRIPTION: **MagniTek Low Odor WM Blanket and Roller Wash (55gl)**
REVISION DATE: 06/18/04

SECTION 7 - FIRE AND EXPLOSION INFORMATION

AUTOIGNITION TEMP: unknown
EXPLOSIVE LIMITS IN AIR: unknown
EXTINGUISHING AGENTS: Use the following media when fighting fires: water spray, CO2, dry chemical, foam.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Use self contained breathing apparatus and protective clothing. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Do not use direct water stream, may spread fire. Do not flame cut, weld or saw empty containers.

SECTION 8 - REACTIVITY INFORMATION

STABILITY: Stable
CONDITIONS TO AVOID: None
INCOMPATABILITY (Materials to avoid): Oxidizing materials can cause a reaction.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon upon combustion.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9 - HANDLING & STORAGE PROCEDURES

EYE PROTECTION: Chemical safety splash goggles.
SKIN PROTECTION: Neoprene or natural rubber gloves should be worn.
VENTILATION REQUIREMENTS: General mechanical ventilation of area is recommended.
RESPIRATORY PROTECTION: NIOSH recommended if above TLV.
STORAGE PRECAUTIONS: Protect against physical damage to containers. Store in a cool, well ventilated area. Keep away from heat and oxidizing materials. Keep out of the reach of children. For industrial use only.
OTHER: Safety shower and eye wash should be available.

SECTION 10 - SPILL AND DISPOSAL INFORMATION

LARGE SPILLS: Contain spill and pump to suitable container. Wash area with suitable detergent and water. Thoroughly rinse area with water.
SMALL SPILLS: Use absorbent material to collect spill and put in appropriate container for disposal. Wash area with suitable detergent and water. Thoroughly rinse area with water.
DISPOSAL METHOD: Use appropriate container and dispose in an approved, licensed site facility. NOTE: Dispose of all wastes in accordance with federal, state and local regulations.
IN CASE OF EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC 1-800-424-9300.

ITEM NUMBER: 128700-55M
ITEM DESCRIPTION: **MagniTek Low Odor WM Blanket and Roller Wash (55gl)**
REVISION DATE: 06/18/04

SECTION 11 - TOXICOLOGY INFORMATION

	LD50 Rat, oral	LC50 Rat, inh.
AROMATIC SOLVENT 100	8,400 mg/kg	N/A
This material contains:		
Xylene	4,300 mg/kg	6,350 ppm/4h
1,2,4-Trimethylbenzene	5,000 mg/kg	18,000 mg/m3
Cumene	1,400 mg/kg	8,000 ppm/4h

SECTION 12 - ECOLOGY INFORMATION

ALL WORK PRACTICES SHOULD BE AIMED AT PREVENTING ANY RELEASE TO THE ENVIRONMENT.

SECTION 13 - REGULATORY INFORMATION

Chemical Control Law Status: All components of this product are listed or are excluded from listing on the U.S. Toxic Substance Control Act (TSCA) chemical substance inventory.

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed or are excluded from listing on the DSL/NDSL Inventory.

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) as prescribed by Canadian (WHMIS) regulations: Class B3 (Combustible Liquid).

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act and are listed as follows:

CHEMICAL NAME	SARA 302/304 (40CFR355)	SARA 311/312 (40CFR355)	SARA 313 (40CFR372)
Aromatic Solvent 100	No	Yes	No
contains: Xylene	No	Yes	Yes
1,2,4 Trimethylbenzene	No	Yes	Yes
Cumene	No	Yes	Yes
Aliphatic Solvent Naphtha	No	Yes	No

SECTION 14 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME: Compounds, Cleaning Liquid
HAZARDOUS CONTENTS: (Contains Petroleum Distillates)
DOT HAZARD CLASS: Combustible liquid
ID NUMBER: NA 1993
PACKAGING TYPE: PG III

The exception for combustible liquids are applicable to non bulk shipments [under 450l (119 gal.)], unless the shipment is via vessel or aircraft. Refer to 49 CFR 173.150 for additional information.

ITEM NUMBER: 128700-55M
ITEM DESCRIPTION: **MagniTek Low Odor WM Blanket and Roller Wash (55gl)**
REVISION DATE: 06/18/04

MARINE POLLUTANT: This product does not contain any components which are designed by the Department of Transportation to be marine pollutants per 49 CFR 172.101 Appendix B.

SECTION 15 - ADDITIONAL INFORMATION

None currently available.

SECTION 16 - END OF DOCUMENT

END OF DOCUMENT

NOTE: This MSDS supercedes all previously dated MSDS for this product.

DISCLAIMER: The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.

END OF DOCUMENT

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : MAJIC AEROSOL MATTE BLACK
IDENTIFICATION NUMBER: 8-20121 DATE PRINTED: 12/03/02
PRODUCT USE/CLASS : Aerosol Spray

SUPPLIER:
Yenkin-Majestic Paint Corporation
1920 Leonard Avenue
Columbus, OH 43219 USA

CHEMTREC: 1-800-424-9300
24 Hr. Emergency Hotline

MANUFACTURER:
Yenkin-Majestic Paint Corporation
1920 Leonard Avenue
Columbus, OH 43219 USA

CHEMTREC: 1-800-424-9300
24 Hr. Emergency Hotline

PREPARER: Tony L. Montjoy, PHONE: 614-253-8511, PREPARE DATE: 05/03/02

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT % LESS THAN
01	TOLUENE	108-88-3	25.0 %
02	ACETONE	67-64-1	20.0 %
03	PROPANE	74-98-6	20.0 %
04	N-BUTANE	106-97-8	15.0 %
05	ALIPHATIC HYDROCARBON	8032-32-4	10.0 %
06	CALCIUM CARBONATE	1317-65-3	10.0 %
07	MAGNESIUM SILICATE	14807-96-6	10.0 %
08	XYLENE	1330-20-7	5.0 %
09	NORMAL BUTANOL	71-36-3	5.0 %
10	ETHYL BENZENE	100-41-4	1.0 %

EXPOSURE LIMITS

ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	COMPANY TLV-TWA	SKIN
01	50 PPM	150 ppm	100 PPM	300 PPM	N.E.	YES
02	500 ppm	750 ppm	750 ppm	1000 ppm	N.E.	NO
03	N.E.	N.E.	1000 ppm	N.E.	N.E.	NO
04	800 ppm	N.E.	800 ppm	N.E.	N.E.	NO
05	300 PPM	N.E.	300 ppm	N.E.	N.E.	NO
06	10 mg/m3	N.E.	15 mg/m3	N.E.	N.E.	NO
07	5 mg/m3	N.E.	5 mg/m3	N.E.	N.E.	NO
08	100 PPM	150 PPM	100 PPM	N.E.	N.E.	NO
09	N.E.	50 PPM*	100 PPM	N.E.	N.E.	YES

(Continued on Page 2)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

	EXPOSURE LIMITS					
	ACGIH		OSHA		COMPANY	
ITEM	TLV-TWA	TLV-STEL	PEL-TWA	PEL-CEILING	TLV-TWA	SKIN
10	100 ppm	N.E.	100 ppm	N.E.	N.E.	NO

(See Section 16 for abbreviation legend), * - Ceiling Value

SECTION 3 - HAZARDS IDENTIFICATION

*** EMERGENCY OVERVIEW ***: Harmful if inhaled. Harmful if absorbed through skin May cause delayed lung damage. Cause (target organ or system) damage. (e.g., lung, nervous system, blood disorders, liver, kidney, immune system, cardiovascular system, thyroid, testicular, ovarian, etc.). Vapors irritating to eyes and respiratory tract. High vapor concentrations may cause drowsiness. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion.

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Causes skin irritation. Allergic reactions are possible. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash). Extensive, prolonged or repeated exposure to this material can result in significant absorption.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. Headaches, dizziness, nausea, decreased blood pressure, changes in heart rate and cyanosis may result from over-exposure to vapor or skin exposure. Breathing saturated vapors for a few minutes may be fatal. Saturated vapors can be encountered in confined spaces and/or under conditions of poor ventilation. When incorporated in the liquid paint, pigments or extenders pose a minimal risk of exposure. Sanding or abrading the dried paint film increases the risk of exposure. Proper respiratory protection MUST be worn when sanding or abrading surfaces painted with this product.

EFFECTS OF OVEREXPOSURE - INGESTION: Irritating to mouth, throat and stomach.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure may cause nervous system damage. Overexposure may cause lung damage. May cause cardiovascular disorder and damage. IARC has classified Ethylbenzene as possibly carcinogenic to humans on the basis of sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Ethylbenzene is NOT classified as carcinogenic by NTP or

(Continued on Page 3)

SECTION 3 - HAZARDS IDENTIFICATION

OSHA.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT SKIN ABSORPTION INHALATION INGESTION EYE CONTACT

SECTION 4 - FIRST AID MEASURES

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

FIRST AID - SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: -156 F

LOWER EXPLOSIVE LIMIT: 0.9 %
UPPER EXPLOSIVE LIMIT: 12.8 %

AUTOIGNITION TEMPERATURE: N.D.

EXTINGUISHING MEDIA: ALCOHOL FOAM CO2 DRY CHEMICAL FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and may be ignited by pilot lights, other flames, sparks heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Eliminate or shut off ALL ignition sources prior to usage.

SPECIAL FIREFIGHTING PROCEDURES: Containers can build up pressure if exposed to heat (fire).

(Continued on Page 4)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling.

STORAGE: Keep away from heat, sparks and flame.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

RESPIRATORY PROTECTION: Use ONLY in areas with adequate ventilation. If this product is used in an area without adequate ventilation (inside an enclosed room or building) a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister MUST be used.

SKIN PROTECTION: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Rubber, Nitrile or Neoprene to prevent skin contact.

EYE PROTECTION: No Information.

OTHER PROTECTIVE EQUIPMENT: No Information.

HYGIENIC PRACTICES: Wash hands before eating. Use only in a well ventilated area. Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Avoid contact with eyes, skin, and clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE	: -42 - 303 F	VAPOR DENSITY	: Is heavier than air
ODOR	: Organic Solvent	ODOR THRESHOLD	: N.D.
APPEARANCE	: Aerosol Spray	EVAPORATION RATE	: Is faster than Ether
SOLUBILITY IN H2O	: Insoluble		
FREEZE POINT	: N.A.	SPECIFIC GRAVITY	: 0.7749
VAPOR PRESSURE	: N.D.	pH @ 0.0 %	:
PHYSICAL STATE	: Aerosol	VISCOSITY	: N.A.

(Continued on Page 5)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

COEFFICIENT OF WATER/OIL DISTRIBUTION: N.D

(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High temperatures or High humidity. Heat, sparks and open flames.

INCOMPATIBILITY: None reasonably forseeable.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce fumes when heated to decomposition, as in welding or fire. Fumes may contain: Carbon Monoxide, Carbon Dioxide and various other hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

SECTION 11 - TOXICOLOGICAL PROPERTIES

No product or component toxicological information is available.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No Information.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: DO NOT INCINERATE! Dispose of in accordance with all Local, State and Federal Regulations. Approved Hazardous Waste Facility.

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: COMSUMER COMODITY

DOT TECHNICAL NAME:

DOT HAZARD CLASS: HAZARD SUBCLASS:

DOT UN/NA NUMBER: ORM-D PACKING GROUP: RESP. GUIDE PAGE:

(Continued on Page 6)

SECTION 14 - TRANSPORTATION INFORMATION

EXCEPTIONS: No Information.

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS -

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA - SARA HAZARD CATEGORY:
This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD CHRONIC HEALTH HAZARD FIRE HAZARD PRESSURIZED GAS HAZARD

SARA SECTION 313:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

---------- CHEMICAL NAME ----------	CAS NUMBER	WT/WT % IS LESS THAN
TOLUENE	108-88-3	25.0 %
XYLENE	1330-20-7	5.0 %
NORMAL BUTANOL	71-36-3	5.0 %
ETHYL BENZENE	100-41-4	1.0 %

TOXIC SUBSTANCES CONTROL ACT:
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

---------- CHEMICAL NAME ----------	CAS NUMBER
ACETONE	67-64-1

U.S. STATE REGULATIONS: AS FOLLOWS -

(Continued on Page 7)

SECTION 15 - REGULATORY INFORMATION

NEW JERSEY RIGHT-TO-KNOW:
The following materials are non-hazardous, but are among the top five components in this product:

CHEMICAL NAME	CAS NUMBER
No non-hazardous materials are among the top five ingredients.	

PENNSYLVANIA RIGHT-TO-KNOW:
The following non-hazardous ingredients are present in the product at greater than 3%:

CHEMICAL NAME	CAS NUMBER
ACRYLIC MODIFIED ALKYD	PROPRIETARY

CALIFORNIA PROPOSITION 65:
WARNING: The chemical(s) noted below and contained in this product, are known to the state of California to cause cancer:

CHEMICAL NAME	CAS NUMBER
No chemicals containing Proposition 65-listed carcinogens exist in this product.	

WARNING: The chemical(s) noted below and contained in this product, are known to the state of California to cause birth defects or other reproductive harm:

CHEMICAL NAME	CAS NUMBER
No chemicals containing Proposition 65-listed reproductive toxins exist in this product.	

WARNING: The chemical(s) noted below and contained in this product, are known to the state of California to cause cancer, birth defects or other reproductive harm:

CHEMICAL NAME	CAS NUMBER
TOLUENE	108-88-3
TOLUENE	

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for use of the 16 headings.

CANADIAN WHMIS CLASS: No information available.

(Continued on Page 8)

SECTION 16 - OTHER INFORMATION

HMIS RATINGS - HEALTH: 2 FLAMMABILITY: 4 REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 05/03/02

VOLATILE ORGANIC COMPOUNDS (VOCS): 5.21 lbs/gal, 624 grams/ltr

LEGEND: N.A. - Not Applicable, N.E. - Not Established,
N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

<END OF MSDS>

We create chemistry

Safety Data Sheet
MasterSeal 590 also Waterplug

1. Identification

Product identifier used on the label

MasterSeal 590 also Waterplug

Recommended use of the chemical and restriction on use
Recommended use*: for industrial and professional users

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Chemical family: No data available.

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
STOT RE	1 (by inhalation)	Specific target organ toxicity — repeated exposure

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H372	Causes damage to organs (Lung) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P260	Do not breathe dust.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

Labeling of special preparations (GHS):
In combination with water, repeated or prolonged dermal exposure can cause moderate to severe alkali burns.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
14808-60-7	>= 25.0 - < 50.0%	crystalline silica
65997-15-1	>= 20.0 - < 50.0%	Cement, portland, chemicals
1305-62-0	>= 1.0 - < 7.0%	Calcium dihydroxide

1317-65-3	>= 0.3 - < 5.0%	Limestone
13397-24-5	>= 0.3 - < 3.0%	Gypsum (Ca(SO4).2H2O)

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. Remove contaminated clothing.

If inhaled:
After inhalation of dust. Keep patient calm, remove to fresh air. If difficulties occur: Obtain medical attention.

If on skin:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Product itself is non-combustible. Only the packaging materials can catch fire. The extinguishing agents normally used are sufficient.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire. Product is not combustible or explosive.

Advice for fire-fighters
Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. The degree of risk is governed by the burning substance and the fire conditions. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid contact with skin and eyes. Use personal protective clothing. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Pick up with suitable appliance and dispose of. Pack in tightly closed containers for disposal.
For residues: Rinse with plenty of water.
Avoid raising dust.

7. Handling and Storage

Precautions for safe handling
Avoid dust formation. The Cement contained in this product reacts alkaline when in contact with water or humidity. This may cause severe irritation of skin or mucous membranes. The humidity of the skin or mucous membranes is enough for this reaction. Prolonged direct contact to the dry product should be avoided therefore. Avoid inhalation of dusts. Avoid skin contact. Pour downwind and allow as little free fall as possible while emptying bags into equipment. Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
No special precautions necessary.

Conditions for safe storage, including any incompatibilities
Segregate from metals. Segregate from acids. Segregate from lyes. Segregate from oxidants. Segregate from foods and animal feeds.

Suitable materials for containers: tinned carbon steel (Tinplate)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Calcium dihydroxide	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 ;
	ACGIH TLV	TWA value 5 mg/m3 ;
Limestone	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
Gypsum (Ca(SO4).2H2O)	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 10 mg/m3 Inhalable fraction ;
crystalline silica	OSHA PEL	TWA value 2.4 millions of particles per cubic foot of air Respirable ; The exposure limit is calculated from the equation, 250/(%SiO2+5), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.1 mg/m3 Respirable ; The exposure limit is calculated from the equation, 10/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.3 mg/m3 Total dust ; The exposure limit is calculated from the equation, 30/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits.
	ACGIH TLV	TWA value 0.025 mg/m3 Respirable fraction ;
Cement, portland, chemicals	OSHA PEL	PEL 15 mg/m3 Total dust ; PEL 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 1 mg/m3 Respirable fraction ; The value is for particulate matter containing no asbestos and <1% crystalline silica.

Advice on system design:
Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed.

Hand protection:
Chemical resistant protective gloves, Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts. In order to prevent contamination while handling, closed working clothes and working gloves should be used. Handle in accordance with good building materials hygiene and safety practice. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form:	powder
Odour:	odourless
Odour threshold:	No applicable information available.
Colour:	grey
pH value:	approx. 12 - 13 (approx. 20 °C) (as aqueous suspension)
Melting point:	The product has not been tested.
Sublimation point:	No applicable information available.
Flash point:	The product has not been tested.
Flammability:	not flammable
Vapour pressure:	The product has not been tested.
Bulk density:	approx. 1,800 - 2,400 kg/m3
Vapour density:	The product is a non-volatile solid.
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	No applicable information available.
Solubility in water:	(20 °C) dispersible
Miscibility with water:	miscible
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Evaporation rate:	The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.
Strong bases are formed on the addition of water.

Conditions to avoid
Avoid dust formation. Avoid humidity.

Incompatible materials
strong bases, strong acids

Hazardous decomposition products

Decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been tested. The statement has been derived from the properties of the individual components.

Oral
No applicable information available.

Inhalation
No applicable information available.

Dermal
No applicable information available.

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

Sensitization
Assessment of sensitization: There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from the properties of the individual components. Chromate in this product has been reduced. Sensitization due to chromate within stated shelf-live is unlikely.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Inhalation of dust may cause respiratory tract irritation, coughing and breathing difficulties. This product contains crystalline silica (quartz). Prolonged or repeated inhalation of respirable crystalline silica may result in silicosis.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Carcinogenicity
Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Information on: crystalline silica
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. In long-term animal studies in which the substance was given by inhalation in high doses, a carcinogenic effect was observed. The substance and its compounds in the form of respirable dusts/aerosolsis classified by the German MAK commision as a category 1 carcinogen (substances that cause cancer to humans). A carcinogenic effect cannot safely be ruled out. The inhalation uptake of the alveolar fraction of the fine dust may cause damage to the lungs. The International Agency for Research on Cancer (IARC) has classified this substance as a Group 1 (known) human carcinogen.
NTP listed carcinogen

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Other Information
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.
The product gives rise to pH shifts. Based on available Data, the classification criteria are not met.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inorganic product which cannot be eliminated from water by biological purification processes. The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

Experience shows this product to be inert and non-degradable.

Elimination information

not applicable

Bioaccumulative potential

Assessment bioaccumulation potential
The product will not be readily bioavailable due to its consistency and insolubility in water.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with local authority regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:
Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Acute; Chronic

State regulations

State RTK	CAS Number	Chemical name
NJ	1305-62-0	Calcium dihydroxide
	1317-65-3	Limestone
	13397-24-5	Gypsum (Ca(SO4).2H2O)
	14808-60-7	crystalline silica
	65997-15-1	Cement, portland, chemicals
PA	1305-62-0	Calcium dihydroxide
	1317-65-3	Limestone
	13397-24-5	Gypsum (Ca(SO4).2H2O)
	14808-60-7	crystalline silica
	65997-15-1	Cement, portland, chemicals

CA Prop. 65:
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

NFPA Hazard codes:
Health : 3 Fire: 0 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/10/20

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

1. Identification

Product identifier used on the label

MasterSeal 590 also Waterplug

Recommended use of the chemical and restriction on use
Recommended use*: for industrial and professional users

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Chemical family: No data available.

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
STOT RE	1 (by inhalation)	Specific target organ toxicity — repeated exposure

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H372	Causes damage to organs (Lung) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P260	Do not breathe dust.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
65997-15-1	>= 25.0 - < 50.0%	Cement, portland, chemicals
14808-60-7	>= 15.0 - < 25.0%	crystalline silica
1305-62-0	>= 3.0 - < 10.0%	Calcium dihydroxide
471-34-1	>= 0.0 - < 5.0%	Calcium carbonate
1317-65-3	>= 0.0 - < 3.0%	Limestone
7778-18-9	>= 0.0 - < 3.0%	Calcium sulphate
13397-24-5	>= 0.0 - < 3.0%	Gypsum (Ca(SO4).2H2O)

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. Remove contaminated clothing.

If inhaled:
After inhalation of dust. Keep patient calm, remove to fresh air. If difficulties occur: Obtain medical attention.

If on skin:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Product itself is non-combustible. Only the packaging materials can catch fire. The extinguishing agents normally used are sufficient.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire. Product is not combustible or explosive.

Advice for fire-fighters
Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. The degree of risk is governed by the burning substance and the fire conditions. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid contact with skin and eyes. Use personal protective clothing. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Pick up with suitable appliance and dispose of. Pack in tightly closed containers for disposal.
For residues: Rinse with plenty of water.
Avoid raising dust.

7. Handling and Storage

Precautions for safe handling
Avoid dust formation. The Cement contained in this product reacts alkaline when in contact with water or humidity. This may cause severe irritation of skin or mucous membranes. The humidity of the skin or mucous membranes is enough for this reaction. Prolonged direct contact to the dry product should be avoided therefore. Avoid inhalation of dusts. Avoid skin contact. Pour downwind and allow as little free fall as possible while emptying bags into equipment. Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
No special precautions necessary.

Conditions for safe storage, including any incompatibilities
Segregate from metals. Segregate from acids. Segregate from lyes. Segregate from oxidants. Segregate from foods and animal feeds.

Suitable materials for containers: tinned carbon steel (Tinplate)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Calcium carbonate	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
Calcium dihydroxide	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 ;
	ACGIH TLV	TWA value 5 mg/m3 ;
Limestone	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
Calcium sulphate	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 10 mg/m3 Inhalable fraction ;
Gypsum (Ca(SO4).2H2O)	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 10 mg/m3 Inhalable fraction ;
crystalline silica	OSHA PEL	TWA value 2.4 millions of particles per cubic foot of air Respirable ; The exposure limit is calculated from the equation, 250/(%SiO2+5), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.1 mg/m3 Respirable ; The exposure limit is calculated from the equation, 10/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.3 mg/m3 Total dust ; The exposure limit is calculated from the equation, 30/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits.
	ACGIH TLV	TWA value 0.025 mg/m3 Respirable fraction ;
Cement, portland, chemicals	OSHA PEL	PEL 15 mg/m3 Total dust ; PEL 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 1 mg/m3 Respirable fraction ; The value is for particulate matter containing no asbestos and <1% crystalline silica.

Advice on system design:
Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed.

Hand protection:
Chemical resistant protective gloves, Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts. In order to prevent contamination while handling, closed working clothes and working gloves should be used. Handle in accordance with good building materials hygiene and safety practice. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form:	powder
Odour:	odourless
Odour threshold:	No applicable information available.
Colour:	grey
pH value:	approx. 12 - 13 (approx. 20 °C) (as aqueous suspension)
Melting point:	The product has not been tested.
Sublimation point:	No applicable information available.
Flash point:	The product has not been tested.
Flammability:	not flammable
Vapour pressure:	The product has not been tested.
Bulk density:	approx. 1,800 - 2,400 kg/m3
Vapour density:	The product is a non-volatile solid.
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not applicable, the product is a solid
Solubility in water:	(20 °C) dispersible
Miscibility with water:	miscible
Evaporation rate:	The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.
Strong bases are formed on the addition of water.

Conditions to avoid
Avoid dust formation. Avoid humidity.

Incompatible materials
strong bases, strong acids

Hazardous decomposition products

Decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Product may present a nuisance dust hazard. Inhalation of dust may cause respiratory tract irritation, coughing and breathing difficulties.

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

Skin
Result: Irritant.

Information on: Cement, portland, chemicals
Species: rabbit
Result: Irritant.

Eye
Result: Risk of serious damage to eyes.

Information on: Cement, portland, chemicals

Species: rabbit
Result: Severely irritating.

Sensitization
Assessment of sensitization: There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from the properties of the individual components. Chromate in this product has been reduced. Sensitization due to chromate within stated shelf-live is unlikely.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The product has not been tested. The statement has been derived from the properties of the individual components.
Inhalation of dust may cause respiratory tract irritation, coughing and breathing difficulties.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Carcinogenicity
Assessment of carcinogenicity: Contains a known carcinogen. This product contains crystalline silica (quartz).

Information on: crystalline silica
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. In long-term animal studies in which the substance was given by inhalation in high doses, a carcinogenic effect was observed. The substance and its compounds in the form of respirable dusts/aerosolsis classified by the German MAK commision as a category 1 carcinogen (substances that cause cancer to humans). A carcinogenic effect cannot safely be ruled out. The inhalation uptake of the alveolar fraction of the fine dust may cause damage to the lungs. The International Agency for Research on Cancer (IARC) has classified this substance as a Group 1 (known) human carcinogen.
NTP listed carcinogen

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Experiences in humans

Information on: crystalline silica
May cause silicosis.

Other Information
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.
The product gives rise to pH shifts. Based on available Data, the classification criteria are not met.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inorganic product which cannot be eliminated from water by biological purification processes. The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

Experience shows this product to be inert and non-degradable.

Elimination information

not applicable

Bioaccumulative potential

Assessment bioaccumulation potential
The product will not be readily bioavailable due to its consistency and insolubility in water.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with local authority regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:
Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Acute; Chronic

CERCLA RQ	CAS Number	Chemical name
100 LBS	50-00-0	Formaldehyde

State regulations

State RTK	CAS Number	Chemical name
PA	14808-60-7	crystalline silica
	1317-65-3	Limestone
	471-34-1	Calcium carbonate
	1305-62-0	Calcium dihydroxide
	13397-24-5	Gypsum (Ca(SO4).2H2O)
	65997-15-1	Cement, portland, chemicals
MA	14808-60-7	crystalline silica
	1317-65-3	Limestone
	471-34-1	Calcium carbonate
	1305-62-0	Calcium dihydroxide
	65997-15-1	Cement, portland, chemicals
NJ	1305-62-0	Calcium dihydroxide
	65997-15-1	Cement, portland, chemicals
	1317-65-3	Limestone
	471-34-1	Calcium carbonate
	13397-24-5	Gypsum (Ca(SO4).2H2O)
	14808-60-7	crystalline silica

CA Prop. 65:
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

NFPA Hazard codes:
Health : 3 Fire: 0 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/08/05

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

PRODUCT NAME: METAL POLISH CREAM

HMIS CODES
Health: 1 Flammability: 2 Reactivity: 0

PRODUCT NUMBER: 100-12

MANUFACTURER: Technical Chemical Co.
P.O. Box 139
Cleburne, TX 76033
1-800-598-6582

CHEMTREC TELEPHONE
(800) 424-9300

MSDS preparation date: 1/1/2014
MSDS revision: Supersedes 1/1/2011

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:

CAS NUMBER	CHEMICAL NAME	WEIGHT %	OSHA PEL	ACGIH TLV	OTHER LIMITS
8008-20-06	Kerosene	15 -25	ND	ND	NA
1344-28-1	Aluminum oxide (non fibrous)	25 - 35	ND	ND	NA
112-80-1	Fatty acid	3 - 6	ND	ND	NA
7664-41-7	Ammonium hydroxide	1-5	50ppm	25ppm	NA

SECTION 3: HAZARDS IDENTIFICATION

Summary of Acute Hazards

ROUTE OF EXPOSURE	SIGN AND SYMPTOM	PRIMARY ROUTE
INHALATION:	ND	NO
EYE CONACT:	MAY CAUSE IRRITATION	YES
SKIN CONTACT:	MAY CAUSE IRRITATION	YES
INGESTION:	MAY CAUSE STOMACH DISTRESS, NAUSEA AND VOMITING	YES

Section 4: FIRST AID MEASURES

- Eye: Remove any contact lenses and flush with running water for 15 minutes. Obtain medical attention if irritation persists.
- Skin: Flush with water. Wash with soap and water. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.
- Ingestion: Do not induce vomiting. Rinse mouth out. Obtain medical attention immediately. If unconscious, never give anything by mouth.
- Inhalation: N/A.

Section 5: FIRE FIGHTING MEASURES

FLASH POINT °F: >148, TCC FLAMMABILITY LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIUM: Water, foam, carbon dioxide, dry chemical. AUTO-IGNITION TEMPERATURE: NA
SPECIAL FIRE FIGHTING PROCEDURES: None known
UNUSUAL FIRE AND EXPLOSION HAZARDS: Hazardous combustion products-may include and are not limited to oxides of carbon.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal protective equipment: ND
Material released or spill: Small spills may be absorbed with non-reactive absorbent material and placed in suitable, covered, labeled containers. Prevent large spills from entering sewers, waterways and soil.

Section 7: STORAGE AND HANDLING

STORAGE: Keep out of reach of children. Store closed container upright away from incompatible materials and food. Do not store near heat, flame, sparks or other forms of ignition.
OTHER PRECAUTIONS: Do not re-use empty containers.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: NONE
ENGINEERING CONTROLS: General ventilation normally adequate. SPECIAL: NA
PROTECTIVE GLOVES: Not needed in normal use
EYE PROTECTION: Not required under normal conditions.
WORK/HYGENIC PRACTICES: Where use can result in skin contact, wash exposed area thoroughly before eating, drinking, smoking or in food preparation. Launder contaminated clothing before re-use.
OTHER PERSOSONAL PROTECTION: As required by employer code.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Blue
PHYSICAL STATE: Cream/paste
VAPOR PRESSURE (mmHg): ND
SOLUBILITY IN WATER: Dispersible
SPECIFIC GRAVITY: 1.22
PARTITION COEFFICIENT OF
WATER/OIL DISTRIBUTION: ND

ODOR: Ammoniacal
BOILING POINT (°F): NA
VAPOR DENSITY (AIR=1): ND
MELTING POINT: ND
EVAPORATION RATE (ETHYL ACETATE =1): ND

pH: 10.50

Section 10: STABILITY AND REACTIVITY

STABILITY: Stable.
CONDITIONS TO AVOID: None
HAZARDOUS DECOMPOSITION: May include, but is not limited to oxides of carbon.

INCOMPATIBILTY: Oxidizers and reducers.
HAZARDOUS POLYMERIZATION: Will not occur.

Section 11: TOXICOLOGICAL PROPERTIES

CARCINOGINICITY: NTP: No IARC MONOGRAPHS: No OSHA REGULATED: No
REPRODUCTIVE TOXICITY: ND TERATOGENICITY: ND MUTAGENICITY: ND
THERE ARE NO LD5O OR LC 50 INFORMATION AVAILABLE.
SKIN TEX DATA: ND

Section 12: ECOLOGICAL INFORMATION

SUBSTANCE	WATER FOWL TOXICITY	BOD	AQUATIC TOXICITY

NO DATA VAILABLE FOR THE INGREDIENTS IN THIS PRODUCT

Section 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of in accordance with all local, state and federal regulations.
CONTAINER DISPOSAL: Dispose of in accordance with all local, state and federal regulations.

Section 14: TRANSPORT INFORMATION

DOT Proper shipping name: Not regulated.
DOT Technical name: Not regulated.
OCEAN (IMDG): Not regulated.
AIR (IATA): Not regulated.
WHMIS (CANADA): Not regulated.

Section 15: REGULATORY INFORMATION

TSCA: All ingredients are listed on the TSCA inventory.
SARA 313: None listed.
CERCLA RQ: NA.
RCRA CODE: NA.

Section 16: OTHER INFORMATION

THIS DOCUMENT IS PREPARED PERSUANT TO THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910. 1200).

LEGEND: ND Not determined. NA Not applicable.

The information provided herein is believed to be accurate and represents the best information currently available. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from use of MSDS information.

SAFETY DATA SHEET

MIC-571 MOISTURE INK BROWN (LA/GA)

Section 1. Identification

Product name : MIC-571 MOISTURE INK BROWN (LA/GA)

Product code : 3010750

Date of issue/Date of revision : 1/8/2016

Supplier : Willamette Valley Company
1075 Arrowsmith
Eugene, OR 97402 USA
541-484-9621

Responsible name : Regulatory Compliance

Emergency telephone number (with hours of operation) : CALL INFOTRAC
800-535-5053
001-352-323-3500
24 hours per day, 7 days per week.

Relevant identified uses of the substance or mixture and uses advised against

INK

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Acetic acid.	1-5%	64-19-7
Dipropylene Glycol Monomethyl Ether	1-5%	34590-94-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 5. Fire-fighting measures

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Acetic acid.	**ACGIH TLV (United States, 3/2012).** STEL: 37 mg/mÂ³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 25 mg/mÂ³ 8 hours. TWA: 10 ppm 8 hours. **NIOSH REL (United States, 1/2013).** STEL: 37 mg/mÂ³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 25 mg/mÂ³ 10 hours. TWA: 10 ppm 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 25 mg/mÂ³ 8 hours. TWA: 10 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 25 mg/mÂ³ 8 hours. TWA: 10 ppm 8 hours.
Dipropylene Glycol Monomethyl Ether	**ACGIH TLV (United States, 3/2012). Absorbed through skin.** TWA: 100 ppm 8 hours. TWA: 606 mg/mÂ³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 909 mg/mÂ³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** TWA: 100 ppm 8 hours. TWA: 600 mg/mÂ³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 900 mg/mÂ³ 15 minutes. **NIOSH REL (United States, 1/2013). Absorbed through skin.** TWA: 100 ppm 10 hours. TWA: 600 mg/mÂ³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 900 mg/mÂ³ 15 minutes. **OSHA PEL (United States, 6/2010). Absorbed through skin.** TWA: 100 ppm 8 hours. TWA: 600 mg/mÂ³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Brown.

Odor : Not available.

pH : Not available.

Boiling point : 101.22°C (214.2°F)

Flash point : Not available.

Flammability : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Evaporation rate : <1 (ether (anhydrous) = 1)

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : >1 [Air = 1]

Specific gravity : 1.01

Solubility : Not available.

VOC (wt%) : 3.44286%

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetic acid.	LC50 Inhalation Vapor	Rat	11000 mg/m³	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
Dipropylene Glycol Monomethyl Ether	LD50 Dermal	Rabbit	9510 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetic acid.	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 milligrams	-
	Skin - Mild irritant	Human	-	24 hours 50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Rabbit	-	525 milligrams	-
Dipropylene Glycol Monomethyl Ether	Eyes - Mild irritant	Human	-	8 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential chronic health effects

Not available.

Section 11. Toxicological information

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	205098.7 mg/kg
Dermal	65681.1 mg/kg
Inhalation (vapors)	681.6 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetic acid.	Acute EC50 73400 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 50.1 ul/L Marine water	Crustaceans - Artemia sp.	48 hours
	Acute LC50 75000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours

Persistence and degradability

Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class (es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	Not available.	Not available.	-	Not available.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

SARA 311/312

Classification : Not applicable.

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

EU Inventory : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Revision Date 18-Jun-2015 **Version** 2

1. IDENTIFICATION

Product identifier
Product Name Mid Blue Enamel L/F

Other means of identification
Product Code IB-7538
UN/ID no. UN1263
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Emergency Overview

Danger

Hazard statements
Harmful if inhaled
Causes skin irritation
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Highly flammable liquid and vapor

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ ventilating/ lighting/ equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• May be harmful in contact with skin
• Toxic to aquatic life with long lasting effects
• Toxic to aquatic life
Unknown acute toxicity 2.56% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Xylene	1330-20-7	15 - 40	*
Aliphatic Hydrocarbon	64742-49-0	10 - 30	*
Ethyl Benzene	100-41-4	5 - 10	*
Titanium dioxide	13463-67-7	1 - 5	*
Phthalocyanine Blue	147-14-8	1 - 5	*

Methyl Isobutyl Ketone	108-10-1	0.1 - 1	*
Methyl Ethyl Ketoxime	96-29-7	0.1 - 1	*
Stoddard Solvent	8052-41-3	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with plenty of water. Call a physician immediately. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician immediately. Move to fresh air in case of accidental inhalation of vapors.

Ingestion Do NOT induce vomiting. Rinse mouth. If symptoms persist, call a physician. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Call a physician.

Self-protection of the first aider Remove all sources of ignition. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Cover liquid spill with sand, earth or other non-combustible absorbent material. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m³	-
Ethyl Benzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³
Phthalocyanine Blue 147-14-8	TWA: 1 mg/m³ Cu dust and mist	-	IDLH: 100 mg/m³ Cu dust and mist TWA: 1 mg/m³ Cu dust and mist

Methyl Isobutyl Ketone 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m³ (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m³ (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 300 mg/m³
Stoddard Solvent 8052-41-3	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m³	IDLH: 20000 mg/m³ Ceiling: 1800 mg/m³ 15 min TWA: 350 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance No information available
Color No information available
Odor No information available
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 79 °C / 174 °F	
Flash point	18 °C / 64 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.96	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	

Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	8.02 lbs/gal
Bulk density	No information available
Percent solids by weight	40.3%
Percent volatile by weight	59.7%
Percent solids by volume	29.8%
Actual VOC (lbs/gal)	4.8
Actual VOC (grams/liter)	574.2
EPA VOC (lbs/gal)	4.8
EPA VOC (grams/liter)	574.2
EPA VOC (lb/gal solids)	16.1

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Chlorinated compounds.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	No data available
Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylene 1330-20-7	= 3500 mg/kg (Rat)	> 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Aliphatic Hydrocarbon 64742-49-0	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 73680 ppm (Rat) 4 h
Ethyl Benzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-

Methyl Isobutyl Ketone 108-10-1	= 2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 8.2 mg/L (Rat) 4 h
Methyl Ethyl Ketoxime 96-29-7	= 930 mg/kg (Rat)	= 0.2 mg/kg (Rabbit)	= 20 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylene 1330-20-7	-	Group 3	-	-
Ethyl Benzene 100-41-4	A3	Group 2B	-	X
Titanium dioxide 13463-67-7	-	Group 2B	-	X
Methyl Isobutyl Ketone 108-10-1	A3	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Ethylbenzene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). Prolonged or repeated overexposure to ethylbenzene may result in adverse effects to the kidneys, liver, respiratory system, thyroid, testicles, and pituitary glands. Avoid repeated exposure. May cause adverse liver effects.
Target Organ Effects Central nervous system, Eyes, kidney, liver, lungs, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

59.4% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea

Xylene 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Aliphatic Hydrocarbon 64742-49-0	-	-	2.6: 96 h Chaetogammarus marinus mg/L LC50
Ethyl Benzene 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Lepomis macrochirus mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 9.6: 96 h Poecilia reticulata mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
Phthalocyanine Blue 147-14-8	-	100: 48 h Oryzias latipes mg/L LC50 static	-
Methyl Isobutyl Ketone 108-10-1	400: 96 h Pseudokirchneriella subcapitata mg/L EC50	496 - 514: 96 h Pimephales promelas mg/L LC50 flow-through	170: 48 h Daphnia magna mg/L EC50
Methyl Ethyl Ketoxime 96-29-7	83: 72 h Desmodesmus subspicatus mg/L EC50	777 - 914: 96 h Pimephales promelas mg/L LC50 flow-through 760: 96 h Poecilia reticulata mg/L LC50 static 320 - 1000: 96 h Leuciscus idus mg/L LC50 static	750: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Xylene 1330-20-7	2.77 - 3.15
Ethyl Benzene 100-41-4	3.118
Phthalocyanine Blue 147-14-8	6.6
Methyl Isobutyl Ketone 108-10-1	1.19
Methyl Ethyl Ketoxime 96-29-7	0.65

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001 U161 U220 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylene 1330-20-7	-	Included in waste stream: F039	-	U239
Ethyl Benzene 100-41-4	-	Included in waste stream: F039	-	-
Methyl Isobutyl Ketone 108-10-1	-	Included in waste stream: F039	-	U161

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Xylene 1330-20-7	Toxic Ignitable
Ethyl Benzene 100-41-4	Toxic Ignitable
Phthalocyanine Blue 147-14-8	Toxic

14. TRANSPORT INFORMATION

DOT

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class Class 3, Flammable Liquid

Packing Group II
Special Provisions 149, B52, IB2, T4, TP1, TP8, TP28
Emergency Response Guide Number 128

TDG

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group II

MEX

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group II

ICAO (air)

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group II
Special Provisions A3, A72

IATA

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group II
ERG Code 3L
Special Provisions A3, A72

IMDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-E
Special Provisions	163
Description	UN1263, Paint, 3, II

RID

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1

ADR

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640C, 650
Labels	3

ADN

Proper shipping name	Paint
Hazard Class	3
Packing Group	II
Classification code	F1
Special Provisions	163, 640C, 650
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Complies *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Does not comply *
AICS	Does not comply *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Xylene - 1330-20-7	1.0
Ethyl Benzene - 100-41-4	0.1
Phthalocyanine Blue - 147-14-8	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylene 1330-20-7	100 lb	-	-	X
Ethyl Benzene 100-41-4	1000 lb	X	X	X
Phthalocyanine Blue 147-14-8	-	X	-	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylene 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethyl Benzene 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Methyl Isobutyl Ketone 108-10-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl Benzene - 100-41-4	Carcinogen
Titanium dioxide - 13463-67-7	Carcinogen
Methyl Isobutyl Ketone - 108-10-1	Carcinogen Developmental
Toluene - 108-88-3	Developmental Female Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Xylene 1330-20-7	X	X	X
Ethyl Benzene 100-41-4	X	X	X
Titanium dioxide 13463-67-7	X	X	X
Phthalocyanine Blue 147-14-8	X	-	X
Solvent Naphtha, Medium Aliphatic 64742-88-7	X	-	-

Methyl Isobutyl Ketone 108-10-1	X	X	X
Cobalt neodecanoate 27253-31-2	X	-	X
1,2,4-Trimethylbenzene 95-63-6	X	X	X
Trimethyl Benzene (mixed isomers) 25551-13-7	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Chemical Name	Weight % of HAPS in Product	Pounds HAPS / Gal Product
Xylene 1330-20-7	32.32%	2.59
Ethyl Benzene 100-41-4	7.14%	0.57

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2 *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = Chronic Health Hazard

Revision Date 18-Jun-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 03-Apr-2007 **Revision Date** 24-Jul-2015 **Revision Number** 4

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name **Mothers Mag & Aluminum Polish**

Other means of identification

Product Code(s) **05100, 05101, 05102, 05104, 35100, 55100**

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Metal polish

Uses advised against No information available

Supplier's details

Supplier Address
MOTHERS POLISHES WAXES CLEANERS
5456 Industrial Drive
Huntington Beach, CA 92649
TEL: 714-891-3364
FAX: 714-893-1827

Emergency telephone number

Emergency Telephone Number Chemtrec Phone: 1-800-424-9300 (within the U.S.) or +1 703-527-3887 (outside the U.S.)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

Specific Target Organ Toxicity (Repeated Exposure)	Category 1
Aspiration Toxicity	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word **Danger**

Hazard Statements
• Causes damage to organs through prolonged or repeated exposure
• May be fatal if swallowed and enters airways

Appearance White **Physical State** Solid. **Odor** Pine

Precautionary Statements

Prevention

- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash face, hands and any exposed skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.

General Advice

- Get medical attention/advice if you feel unwell

Ingestion

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Do NOT induce vomiting.

Storage

- Store locked up.

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

36.04743% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	25-50	*
Aluminum oxide	1344-28-1	25-50	*
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	<10	*
Triethanolamine	102-71-6	<10	*
Tall oil fatty acids	61790-12-3	<10	*
Hexylene glycol	107-41-5	<10	*

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Ingestion Drink plenty of water. Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if necessary

Protection of First-aiders For personal protection see Section 8

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Aspiration into lungs can produce severe lung damage

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO_2). Foam. Dry powder. Dry chemical.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with the skin and the eyes. Use personal protective equipment.

Environmental Precautions

Environmental Precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Petroleum distillates, hydrotreated light 64742-47-8	TWA: 5 mg/m³ STEL: 10 mg/m³ (as oil mist)	TWA: 5 mg/m³ (as oil mist)	-
Aluminum oxide 1344-28-1	TWA: 1 mg/m³ respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	-
Triethanolamine 102-71-6	TWA: 5 mg/m³	-	-
Tall oil fatty acids 61790-12-3	5 mg/m³ (resp) 10 mg/m³ STEL (resp)	5 mg/m³ (resp)	-
Hexylene glycol 107-41-5	Ceiling: 25 ppm	(vacated) Ceiling: 25 ppm (vacated) Ceiling: 125 mg/m³	Ceiling: 25 ppm Ceiling: 125 mg/m³

Immediately Dangerous to Life or Health.

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.
Skin and Body Protection Protective gloves.
Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Solid.
Appearance White.
Odor Pine.
Odor Threshold No information available.

Property	Values	Remarks/ - Method
pH	No data available	None known
Melting Point/Range	55 °C	None known
Boiling Point/Boiling Range	No data available	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known

Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Combustible material: may burn but does not ignite readily.

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) <30

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

None known based on information supplied.

Hazardous decomposition products

None under normal use. Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect.
Eye Contact Contact with eyes may cause irritation.
Skin Contact Prolonged or repeated contact may dry skin and cause irritation. Causes mild skin irritation
Ingestion Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Petroleum distillates, hydrotreated light	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Aluminum oxide	> 5000 mg/kg (Rat)	-	-
Solvent naphtha (petroleum), medium aliphatic	> 5000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Triethanolamine	= 4190 mg/kg (Rat)	> 2000 mg/kg (Rabbit) > 16 mL/kg (Rat)	-

Tall oil fatty acids	= 7600 mg/kg (Rat)	-	-
Hexylene glycol	= 3692 mg/kg (Rat)	12,3000 mg/kg (Rabbit)	> 310 mg/m³ (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Triethanolamine		Group 3		

IARC: (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to its Carcinogenicity to Humans

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Chronic Toxicity Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal
Target Organ Effects Respiratory system. Eyes. Skin. Central nervous system (CNS).
Aspiration Hazard May be fatal if swallowed and enters airways

Numerical measures of toxicity - Product
Acute Toxicity 36.04743% of the mixture consists of ingredient(s) of unknown toxicity.
The following values are calculated based on chapter 3.1 of the GHS document:
LD50 Oral 14428 mg/kg; Acute toxicity estimate
LD50 Dermal 25219 mg/kg; Acute toxicity estimate
Inhalation mg/L
dust/mist 57.1 mg/L; Acute toxicity estimate mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Petroleum distillates, hydrotreated light 64742-47-8		LC50 96 h: = 45 mg/L flow-through (Pimephales promelas) LC50 96 h: = 2.2 mg/L static (Lepomis macrochirus) LC50 96 h: = 2.4 mg/L static (Oncorhynchus mykiss)		LC50 96 h: = 4720 mg/L (Den-dronereides heteropoda)
Aluminum oxide 1344-28-1		LC50 96 h: > 100 mg/L semistatic (Salmo trutta)		LC50 48 h: > 100 mg/L (daphnia magna)
Solvent naphtha (petroleum), medium aliphatic 64742-88-7	EC50 96 h: = 450 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: = 800 mg/L static (Pimephales promelas)		EC50 48 h: > 100 mg/L (Daphnia magna)
Triethanolamine 102-71-6	EC50 72 h: = 216 mg/L (Desmodesmus subspicatus) EC50 96 h: = 169 mg/L (Desmodesmus subspicatus)	LC50 96 h: 10600 - 13000 mg/L flow-through (Pimephales promelas) LC50 96 h: > 1000 mg/L static (Pimephales promelas) LC50 96 h: 450 - 1000 mg/L static (Lepomis macrochirus)	EC50 > 10000 mg/L 30 min	EC50 24 h: = 1386 mg/L (Daphnia magna)

Tall oil fatty acids 61790-12-3	EC50 72 h: >= 1000 mg/L (Pseudokirchneriella subcapitata)			
Hexylene glycol 107-41-5		LC50 96 h: 10500 - 11000 mg/L flow-through (Pimephales promelas) LC50 96 h: = 10000 mg/L static (Lepomis macrochirus) LC50 96 h: = 8690 mg/L flow-through (Pimephales promelas) LC50 96 h: = 10700 mg/L static (Pimephales promelas)	EC50 = 3038 mg/L 5 min	EC50 48 h: 2700 - 3700 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Triethanolamine	-2.53
Tall oil fatty acids	5.98
Hexylene glycol	0.13986

Other Adverse Effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with federal, state, and local regulations

Contaminated Packaging Do not re-use empty containers.

California Hazardous Waste Codes 331

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
EINECS Complies
ELINCS Complies

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Aluminum oxide	X	X	X		X
Solvent naphtha (petroleum), medium aliphatic	X				
Triethanolamine	X	X	X		X
Hexylene glycol	X	X	X		X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazard** 2	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** N/A
HMIS	**Health Hazard** 2*	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** B

**Indicates a chronic health hazard.*

Prepared By

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 03-Apr-2007
Revision Date 24-Jul-2015
Revision Note Update to Format.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

M A T E R I A L S A F E T Y D A T A S H E E T

---------- ***** I. IDENTIFICATION ***** ----------

MANUFACTURED BY: Diamond Vogel Paint
1020 Albany Place South
Orange City, Ia 51041

REVISED: 05/01/1997
PRINTED: 01/03/1999

TELEPHONE: 712-737-4993
FAX: 17127374997

PROPER SHIPPING NAME: PAINT

TRADE NAME: MULT-E-POXY 180 REGULAR CURE PART B

MFG. PRODUCT NUMBER: LM-0216
ALTERNATE CODE: LM-0216

----------***** II. HAZARDOUS INGREDIENTS *****----------

				ACGIH		OSHA				
MSG	INGREDIENT	CAS #	WT.%	TLV	STEL	PEL	CEILING	PEAK	VAPOR LEL%	PRESSURE
	Trade Secret		5-20	n.e.	n.e.	n.e.	n.e.	n.e.		0.01 mmHg21c
	Trade Secret		5-20							n.v.
	Nonylphenol	25154-52-3	5-20	N.E	N.E.	N.E.			N.E.	N.E.
(1)	Xylene	1330-20-7	5-20	100 PPM	150 PPM	100 PPM	200 PPM		1.0	9.5 mm
	Furfuryl Alcohol	98-00-0	1-5	10 ppm, skin		10 ppm, skin			1.8	0.4@ 20C

WARNING MESSAGES:

(1) Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Chronic exposure may cause damage to the central nervous system, respiratory system, lung, eye, skin, liver, gastrointestinal tract, spleen, kidneys, and blood.

----------***** III. PHYSICAL DATA *****----------

BOILING RANGE: 266-439° F

EVAPORATION RATE: * slower than ether *

PERCENT VOLATILE BY VOLUME: 25.62% WEIGHT PER GALLON: 11.34 LBS

VAPOR DENSITY: * heavier than air *

----------***** IV. FIRE AND EXPLOSION HAZARD DATA *****----------

FLASH POINT: 27° C 81° F LEL: Refer to Section II

FLAMMABILITY CLASSIFICATION: CLASS 1C

DOT CLASSIFICATION (HAZARD CLASS): *Flammable Liquid

EXTINGUISHING MEDIA: Use water spray, dry chemical, foam, or Carbon Dioxide. Use water spray to cool fire-exposed containers.

UNUSUAL FIRE AND EXPLOSION HAZARD: Keep away from heat, sparks, and flame. May generate toxic or irritating combustion products.

May generate carbon monoxide or toxic nitrogen gases.

SPECIAL FIRE FIGHTING PROCEDURES:
In case of fire and/or explosion do not breathe fumes. Use water spray to reduce vapors. If water pollution occurs, notify appropriate authorities. Wear NIOSH approved self-contained breathing apparatus with independent air supply. Keep containers cool with water spray. Avoid skin contact.

----------***** V. HEALTH AND HAZARD DATA *****----------

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF OVEREXPOSURE:
ACUTE: Eye contact- Severe irritant, chemical burn possible, possible tissue damage.
Skin contact- Severe irritant, corrosion to tissue, possible skin burns.
Inhalation- Moderate to severe irritant.
Ingestion- Severe irritation, possible gastrointestinal tract.
CHRONIC: Slightly toxic with repeated inhalation or ingestion. Causes burns to exposed tissue.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Asthma, Chronic respiratory disease (e.g. Bronchitis, Emphysema)
Eye disease, Skin disorders and Allergies.

PRIMARY ROUTE(S) OF ENTRY: Ingestion, Skin Absorption, Inhalation

EMERGENCY AND FIRST AID PROCEDURES:
INHALATION: Remove to fresh air. Restore breathing. Treat symptomatically. Consult a physician.
EYES: Flush immediately with large amounts of water for at least 15 minutes. Talk to a physician for medical treatment.
SKIN: Wipe off with towel. Wash with soap and water. Remove contaminated clothing.
INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a medical personnel. Never give anything by mouth to an unconscious person.

----------***** VI. REACTIVITY DATA *****----------

STABILITY: *stable* HAZARDOUS POLYMERIZATION: *will not occur*

INCOMPATIBILITY:

Oxidizing agents, cleaning solutions, such as chromerge (sulfonic acid/dichromate) and aqua regia. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

HAZARDOUS DECOMPOSITION PRODUCTS: Fire, burning and welding may generate carbon monoxide, carbon dioxide, ammonia. Nitrogen oxides in a fire. Nitrogen oxide can react with water vapors to form corrosive nitric acid. Combustion of product under oxygen starved conditions can be expected to produce numerous toxic products including: nitriles, cyanic acid, isocyanates, cyanogens, nitrosamines, amides, carbamates. Irritating and toxic fumes at elevated temperatures.

CONDITIONS TO AVOID: Avoid acid contamination and skin contact. Keep containers tightly closed. No smoking or eating in handling area.

----------***** VII. SPILL OR LEAK PROCEDURES *****----------

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Use non-sparking tools. Remove with inert absorbant.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations.

----------***** VIII. SPECIAL PROTECTION INFORMATION *****----------

RESPIRATORY PROTECTION: In confined areas of poor ventilation, use chemical cartridge respirator or self-contained breathing apparatus.

VENTILATION: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV and LEL of most hazardous ingredient in Section II, below acceptable limit.

PROTECTIVE GLOVES:
Wear suitable gloves (S37). Nitrile rubber gloves. In emergency situations, wear impermeable gloves with cuffs to prevent spread of material to area above the wrists.

EYE PROTECTION:
Splash proof eye goggles. In emergency situations, use eye goggles with a full face shield.

OTHER PROTECTIVE EQUIPMENT: Protective clothing such as coveralls or lab coats must be worn.

HYGIENIC PRACTICES: See Section V

----------*** IX. SPECIAL PRECAUTIONS *****----------**

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING: Do not store near heat, sparks, flame, strong oxidizing agents or strong acids. This material may cause sensitization. Do not get in eyes, on skin or clothing. Do not allow contaminated clothing to contact skin. Avoid contact with vapors or fumes.

OTHER PRECAUTIONS: Eye wash station and safety shower should be available

*****==========*****

SAFETY DATA SHEET
MULTI-PURPOSE GREASE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name MULTI-PURPOSE GREASE

Product No. MPG, EMPG50T, ZE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Grease

Uses advised against At this moment in time we do not have information on use restrictions. They will be included in this safety data sheet when available

1.3. Details of the supplier of the safety data sheet

Supplier

ELECTROLUBE. A division of HK
WENTWORTH LTD
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH, LEICESTERSHIRE
LE65 1JR
UNITED KINGDOM
+44 (0)1530 419600
+44 (0)1530 416640
info@hkw.co.uk

1.4. Emergency telephone number

+44 (0)1530 419600 between 8.30am - 5.00pm GMT Mon – Fri

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Not classified.
Environment	Not classified.

Classification (1999/45/EEC) Not classified.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health

Prolonged or repeated exposure may cause severe irritation.

2.2. Label elements

Label In Accordance With (EC) No. 1272/2008

No pictogram required.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition Comments

NON HAZARDOUS INGREDIENTS 100%

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation

Not relevant

Ingestion

Rinse mouth thoroughly. Drink plenty of water. Get medical attention.

Skin contact

Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

Eye contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact

Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

4.3. Indication of any immediate medical attention and special treatment needed

Treat Symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

Extinguish with foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

No unusual fire or explosion hazards noted.

Specific hazards

The product is non-combustible. If heated, harmful vapours may be formed.

5.3. Advice for firefighters

Special Fire Fighting Procedures

Use water to keep fire exposed containers cool and disperse vapours. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact. Get medical attention if any discomfort continues.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

Storage Class

Unspecified storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Process conditions

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures

All handling to take place in well-ventilated area.

Hand protection

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Gloves should conform to EN374

Eye protection

If risk of splashing, wear safety goggles or face shield. EN166

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Environmental Exposure Controls

Keep container tightly sealed when not in use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Grease
Colour	Beige.
Odour	Mild.
Solubility	Insoluble in water
Initial boiling point and boiling range (°C)	>316 (600 F)
Relative density	0.910
Vapour pressure	<0.1 mm Hg 20 (68 F)
Viscosity	@ °c
Flash point (°C)	230 (446 F) CC (Closed cup).
Auto Ignition Temperature (°C)	> 300 (572 F)
Flammability Limit - Lower(%)	0.9
Flammability Limit - Upper(%)	7.0
Partition Coefficient (N-Octanol/Water)	>3.5

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Not known.

Hazardous Polymerisation

Will not polymerise.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials To Avoid

No specific, or groups of materials are likely to react to produce a hazardous situation.

10.6. Hazardous decomposition products

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information

No information available.

Other Health Effects

This substance has no evidence of carcinogenic properties.

Ingestion

Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Nausea, vomiting.

Health Warnings

No specific health warnings noted. No specific acute or chronic health impact noted, but this chemical may still have adverse impact on human health, either in general or on certain individuals with pre-existing or latent health problems.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Not regarded as dangerous for the environment.

12.1. Toxicity

12.2. Persistence and degradability

Degradability

There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient >3.5

12.4. Mobility in soil

Mobility:

The product contains substances, which are insoluble in water and which may spread on water surfaces.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

General	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
Road Transport Notes	Not Classified
Rail Transport Notes	Not classified.
Sea Transport Notes	Not classified.
Air Transport Notes	Not classified.

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Transport Labels

No transport warning sign required.

14.4. Packing group

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No information required.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716). Control of Substances Hazardous to Health.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions of use are noted for this product.

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Issued By	Helen O'Reilly
Revision Date	APRIL 2013
Revision	7
SDS No.	10530

ZEP Inc.
11627 178th Street
Edmonton, Alberta T5S 1N6
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product name **MVP LV**

Product use Liquid Waterless Hand Cleaner

Product code **3297**

Date of issue **06/05/14** **Supersedes** **Not available.**

Emergency Telephone Numbers

For MSDS Information:
Technical Services Group
Telephone (780) 453-8100
(Business Hours 8:00am - 5:00pm)

For Medical or Transportation Emergency
CANUTEC (24 Hours)
(613) 996-6666 - Call Collect

Prepared By
Technical Services Group
11627 178th Street
Edmonton, Alberta T5S 1N6

Section 2. Hazards Identification

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Dermal contact. Eye contact

Eyes May cause eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin This product is formulated for use on the skin.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion No known acute effects of this product resulting from ingestion.

Chronic effects Prolonged or repeated contact may dry skin and cause irritation.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
This product is not classified as a WHMIS controlled product. None of the ingredients in this product are listed on the WHMIS Ingredient Disclosure List.		100

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin Contact This product is formulated for use on the skin, but should always be immediately rinsed off with plenty of water. Discontinue use if irritation and redness develop. If condition persist for more than 72 hours, consult a doctor.

Inhalation Not applicable.

Ingestion Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flash Point Not available.

Flammable Limits Not available.

Flammability Non-combustible.

Auto-ignition Temperature

Fire-Fighting Procedures Use an extinguishing agent suitable for the surrounding fire.

Fire hazard In a fire or if heated, a pressure increase will occur and the container may burst.

Products of Combustion

Explosion hazard

Section 6. Accidental Release Measures

Spill Clean up Absorb with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and Storage

Handling For external use only. Avoid contact with eyes. Do not ingest. Wash thoroughly after handling. Do not reuse container.

Storage Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Do not store in unlabeled containers. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name **Exposure limits**

No exposure limit value known.

Personal Protective Equipment (PPE)

Eyes No special precautions are necessary if used as intended.

Hands and Body No protective clothing is required under normal conditions of use.

Respiratory No personal respiratory protective equipment normally required.

Section 9. Physical and Chemical Properties

Physical State	Viscous liquid. Gel	**Color**	White.
pH	7 to 8	**Odor**	Slight
Boiling Point	104.44°C (220°F)	**Vapor Pressure**	Not determined.
Specific Gravity	0.924	**Vapor Density**	Not determined.
Solubility	Emulsifies in water.	**Evaporation Rate**	Water = 1
Freezing Point		**VOC (Consumer)**	0.96 % (w/w)

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Reactive or incompatible with the following materials: oxidizing materials.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Hazardous Decomposition Products carbon oxides (CO, CO_2)

Section 11. Toxicological Information

Carcinogenicity Not available.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Not available.				

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Section 12. Ecological Information

Aquatic Ecotoxicity

-	Acute LC50 710000 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with applicable regulations. Consult your local or regional authorities for additional information.

Waste Stream Non-hazardous waste

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment. Limited Quantity: Small quantities of controlled goods are not regulated as Dangerous Goods according to TDG regulations.

PG* : Packing group

Section 15. Regulatory Information

Canada

WHMIS (Canada) Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

1. Identification

Product identifier	**NAPA® Brakleen® Non-Chlorinated Brake Parts Cleaner**
Other means of identification	
Product code	095084
Recommended use	Brake cleaner
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Reproductive toxicity (the unborn child)	Category 2
	Specific target organ toxicity, single exposure	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Toxic if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause damage to organs (brain, kideys, liver, lungs) through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child. Causes damage to organs (eyes) by ingestion. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response

If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If exposed: Call a poison center/doctor. If exposed or concerned: Get medical attention. Collect spillage.

Storage

Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

21.43% of the mixture consists of component(s) of unknown acute dermal toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Acetone		67-64-1	40 - 50
Methanol		67-56-1	10 - 20
Carbon dioxide		124-38-9	5 - 10
n-Heptane		142-82-5	5 - 10
Toluene		108-88-3	5 - 10
3-Methylhexane		589-34-4	3 - 5
Methylcyclohexane		108-87-2	3 - 5
Naphtha (petroleum), hydrotreated light		64742-49-0	3 - 5
Cyclohexane		110-82-7	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Remove all possible sources of ignition in the surrounding area. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Prevent product from entering drains. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Wash contaminated clothing before reuse. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3
		1000 ppm
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m3
		300 ppm
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
Methylcyclohexane (CAS 108-87-2)	PEL	2000 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
3-Methylhexane (CAS 589-34-4)	STEL	500 ppm
	TWA	400 ppm
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Methylcyclohexane (CAS 108-87-2)	STEL	500 ppm
	TWA	400 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3
		300 ppm
Methanol (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm
Methylcyclohexane (CAS 108-87-2)	TWA	1600 mg/m3
		400 ppm
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Methanol (CAS 67-56-1)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

US - Tennessee OELs: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Nitrile. Neoprene. Polyvinyl alcohol (PVA).
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Aerosol.
Color	Clear.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-195.9 °F (-126.6 °C) estimated
Initial boiling point and boiling range	132.9 °F (56.1 °C) estimated
Flash point	< 0 °F (< -17.8 °C) Tag Closed Cup
Evaporation rate	Fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 % estimated
Flammability limit - upper (%)	36 % estimated
Vapor pressure	5157.4 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.84 estimated
Solubility (water)	Slightly soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	539.6 °F (282 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	91.2 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Acids. Alkalies. Amines. Ammonia. Halogens. Aluminum. Magnesium. Zinc. Peroxides. Strong oxidizing agents. Reducing agents.
Hazardous decomposition products	Carbon oxides. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Harmful in contact with skin. Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Toxic if swallowed. Even small amounts (30-250 ml methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder and blindness. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Harmful if inhaled. Harmful in contact with skin. Narcotic effects. May cause respiratory irritation.

Product	Species	Test Results
NAPA® Brakleen® Non-Chlorinated Brake Parts Cleaner		
Acute		
Dermal		
LD50	Rabbit	7388 mg/kg estimated
Inhalation		
LC50	Rat	27188 ppm, 4 hours estimated
		68 mg/l, 4 Hours estimated
Oral		
LD50	Human	305 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Causes damage to organs: Eyes. May cause respiratory irritation. May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure: Liver. Kidneys. Brain. Lungs.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
Chronic effects	May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects.

Product		Species	Test Results
NAPA® Brakleen® Non-Chlorinated Brake Parts Cleaner			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	25566.5273 mg/l, 48 hours estimated
Fish	LC50	Fish	37.5792 mg/l, 96 hours estimated

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	10294 - 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	23.03 - 42.07 mg/l, 96 hours
Methanol (CAS 67-56-1)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	18000 - 20000 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	18000 - 20000 mg/l, 96 hours
Methylcyclohexane (CAS 108-87-2)			
Aquatic			
Fish	LC50	Striped bass (Morone saxatilis)	5.8 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.1 - 2.98 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Acetone	-0.24
Cyclohexane	3.44
Methanol	-0.77
Methylcyclohexane	3.61
n-Heptane	4.66
Toluene	2.73

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This material and its container must be disposed of as hazardous waste. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code	D001: Waste Flammable material with a flash point <140 F F003: Waste Non-halogenated Solvent - Spent Non-halogenated Solvent F005: Waste Non-halogenated Solvent - Spent Non-halogenated Solvent
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity, MARINE POLLUTANT
Transport hazard class(es)	
Class	2.1
Subsidiary risk	6.1(PGIII)
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, containing substances in Division 6.1, Packing Group III
Transport hazard class(es)	
Class	2.1
Subsidiary risk	6.1(PGIII)
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, MARINE POLLUTANT
Transport hazard class(es)	
Class	2
Subsidiary risk	6.1(PGIII)
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Cyclohexane (CAS 110-82-7)

Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Methanol (CAS 67-56-1)	Listed.
Toluene (CAS 108-88-3)	Listed.

CERCLA Hazardous Substances: Reportable quantity

Acetone (CAS 67-64-1)	5000 LBS
Cyclohexane (CAS 110-82-7)	1000 LBS
Methanol (CAS 67-56-1)	5000 LBS
Toluene (CAS 108-88-3)	1000 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Toluene (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Toluene (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Toluene (CAS 108-88-3)	594

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Acetone (CAS 67-64-1)
Naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

3-Methylhexane (CAS 589-34-4)
Acetone (CAS 67-64-1)
Carbon dioxide (CAS 124-38-9)
Methylcyclohexane (CAS 108-87-2)
n-Heptane (CAS 142-82-5)
Cyclohexane (CAS 110-82-7)
Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. Massachusetts RTK - Substance List

3-Methylhexane (CAS 589-34-4)
Acetone (CAS 67-64-1)
Carbon dioxide (CAS 124-38-9)
Cyclohexane (CAS 110-82-7)
Methanol (CAS 67-56-1)
Methylcyclohexane (CAS 108-87-2)
n-Heptane (CAS 142-82-5)
Toluene (CAS 108-88-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexane (CAS 110-82-7)
Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)
Benzene (CAS 71-43-2)
3-Methylhexane (CAS 589-34-4)
Carbon dioxide (CAS 124-38-9)
Methylcyclohexane (CAS 108-87-2)
n-Heptane (CAS 142-82-5)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexane (CAS 110-82-7)
Methanol (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987
Cumene (CAS 98-82-8)	Listed: April 6, 2010
Ethanal (CAS 75-07-0)	Listed: April 1, 1988
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
Naphthalene (CAS 91-20-3)	Listed: April 19, 2002

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997
Methanol (CAS 67-56-1)	Listed: March 16, 2012
Toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) 43.8 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a Brake Cleaner. This product is not compliant to be sold for use in California and the following counties in Utah: Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber. This product is compliant in all other states.

VOC content (CA) 43.8 %

VOC content (OTC) 43.8 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-13-2015

Prepared by Allison Cho

Version # 01

Further information CRC # 991

HMIS® ratings
Health: 2*
Flammability: 4
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 2
Flammability: 4
Instability: 0

NFPA ratings

Disclaimer

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

Safety Data Sheet

Issue Date: 26-May-2015 **Revision Date:** 30-June-2015 **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name **NAPA DOT 3 Brake Fluid**

Other means of identification For Disc and Drum Brake Systems
SDS # NAP-002

Restrictions on Use:
FOR LABELS FOR THE GENERAL PUBLIC:
If medical advice is needed, have product container or label at hand.

Keep out of reach of children and animals.

Read label before use.

***FOR THE INDUSTRIAL WORKER*:**
Industrial use only.

Details of the supplier of the safety data sheet
Warren Unilube, Inc.
(An Affiliate of Warren Oil Co., Inc.)
915 E. Jefferson
West Memphis, AR 72301

Emergency Telephone Number
Company Phone Number 1-800-428-9284
Emergency Telephone (24 hr) CHEMTREC 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Hazard Classification:
OSHA Hazards: Target Organ Effect, Harmful by Ingestion, Irritant, Teratogen, Reproductive hazard.

Target Organs: Kidney, Liver, Central Nervous System, Female Reproductive System, Male Reproductive System, Blood.

GHS Classification:
Acute toxicity, dermal (Category 5)
Acute toxicity, oral (Category 4)
Skin Irritation (Category 3)
Serious eye damage (Category 1)
Reproductive toxicity (Category 2)

Signal Word: WARNING

Hazard Statements:

H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H316	Causes mild skin irritation.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility or the unborn child.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety instructions have been read and understood.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear eye protection / face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor / physician immediately.
P330	IF SWALLOWED: Rinse mouth.
P312	IF ON SKIN: Call a POISON CENTER or doctor / physician if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice / attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P310	IF IN EYES: Immediately call a POISON CENTER or doctor / physician/
P308 + P313	IF exposed or concerned: Get medical advice / attention.

HMIS Classification:

Health Hazard:	1
Chronic Health Hazard	
Flammability:	1
Physical Hazards:	0

NFPA Rating:

Health Hazard:	1
Fire:	1
Reactivity:	0

Description of Any Other Hazards Not Otherwise Classified: none known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT Name	CAS NUMBER	%wt. or %V
Triethylene Glycol Monomethyl Ether	112-35-6	5 – 50
Triethylene Glycol Monoethyl Ether	112-50-5	5 – 50
Triethylene Glycol Monobutyl Ether	143-22-6	5 – 50
Tetrathylene Glycol Monobutyl Ether	1559-34-8	5 – 20
Polyethylene Glycol	25322-68-3	5 – 20
Diethylene Glycol Monobutyl Ether	112-34-5	5 – 20
Diethylene Glycol	111-46-6	5 – 15
Diethylene Glycol Monomethyl Ether	111-77-3	< 5
Diethylene Glycol Monoethyl Ether	111-90-0	< 5

Polyalkylene Glycol Monobutyl Ether	9004-77-7	5 – 20
Polyalkylene Glycol Monomethyl Ether	23783-42-8	5 – 20
Polyalkylene Glycol	9038-95-3	5 – 20
Trade Secret Inhibitor Package	Trade Secret	3

3% of the composition of this material has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

EYES Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation continues or persists, get medical advice / attention.

SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice / attention.

INHALATION Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

INGESTION Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

NOTES TO PHYSICIANS OR FIRST AIR PROVIDERS: Treatment should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Dry chemical, foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak, and disperse vapors.

UNSUITABLE EXTINGUISHING MEDIA: Direct water stream.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area. Do not use direct water stream to extinguish fires. Do not release runoff from fire control methods to sewers or waterways.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, and unidentified organic compounds.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: Wear full protective clothing and NIOSH – approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive breathing mode.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use appropriate personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with spilled material. Insure adequate ventilation. Remove all sources of ignition. Use non-sparking tools and equipment.

PROTECTIVE CLOTHING: Standard work uniform. Impervious gloves. Safety glasses. Personnel should increase PPE level as deemed appropriate in any given situation.

EMERGENCY PROCEDURES:

SMALL SPILLS

Contain and recover liquid when possible. Collect liquid in appropriate container or absorb with an inert material (such as vermiculite or dry sand) and place in chemical waste container. Do not use combustible materials such as sawdust for the cleanup.

LARGE SPILLS

Containment

Shut off source of leak if safe to do so. Dike far ahead of liquid spill for later disposal. Do not allow material to enter sewers or waterways.

Cleanup

Contain and recover liquid when possible. Collect liquid in appropriate container. Absorb residue with an inert material (such as vermiculite or dry sand) and place in chemical waster container. Do not use combustible materials such as sawdust for the cleanup.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS: May be harmful or fatal if swallowed.

STORAGE REQUIREMENTS: Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Controls should be such that adequate ventilation is provided.

VENTILATION: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work place by controlling it at its source.

RESPIRATORY PROTECTION: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA / NIOSH approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (e.g. cleaning spills, reactor vessels, or storage tanks), wear an SCBA. ***WARNING!*** *Air purifying respirators do not protect workers in oxygen-deficient atmospheres!* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

EYE PROTECTION: Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.

SKIN PROTECTON: Wear chemically protective gloves, boots, aprons and gauntlets to prevent prolonged or repeated skin contact.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Make emergency eyewash stations, safety / quick drench showers and washing facilities available in work areas.

WORK HYGIENE PRACTICES: Never eat, drink or smoke in work areas. Practice good personal hygiene after using this material especially before eating, drinking or smoking, using the toilet, or applying cosmetics. Separate contaminate work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Discard belts and shoes that cannot be cleaned.

EXPOSURE GUIDELINES:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		
	TWA	STEL	TWA	STEL	TWA	STEL	USA WEEL
Triethylene Glycol Monomethyl Ether	None established	None established	None established	None established	None established	None established	None established
Triethylene Glycol Monoethyl Ether	None established	None established	None established	None established	None established	None established	None established
Triethylene Glycol Monobutyl Ether	None established	None established	None established	None established	None established	None established	None established
Tetraehylene Glycol Monobutyl Ether	None established	None established	None established	None established	None established	None established	None established
Polyethylene Glycol	None established	None established	None established	None established	None established	None established	10 mg / m3
Diethylene Glycol Monobutyl Ether	None established	None established	None established	None established	None established	None established	None established
Diethylene Glycol	None established	None established	None established	None established	None established	None established	10 mg / m3
Diethylene Glycol Monomethyl Ether	None established	None established	None established	None established	None established	None established	25 ppm
Diethylene Glycol Monoethyl Ether	None established	None established	None established	None established	None established	None established	None established
Diethylene Glycol Monobutyl Ether	None established	None established	None established	None established	None established	None established	None established
Polyalkylene Glycol Monobutyl Ether	None established	None established	None established	None established	None established	None established	None established
Polyalkylene Glycol Monomethyl Ether	None established	None established	None established	None established	None established	None established	None established
Polyalkylene Glycols	None established	None established	None established	None established	None established	None established	None established
Inhibitor Package	None established	None established	None established	None established	None established	None established	None established

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance and Color: Yellow to Amber
Odor: Mild
Flash Point: >275°F (>135°C)
Upper / Lower Flammability or Explosive Limits Not available

Auto Ignition Temperature:	Not available
Decomposition Temperature:	Not available
Vapor Pressure:	Not available
Odor Threshold:	Not available
Vapor Density (air=1)	> 1
pH:	10.0 – 11.5
Relative Density:	8.33 – 9.02 lb/gal
Specific Gravity (H2O=1 AT 4 C):	1.000 – 1.070
Melting Point / Freeze Point:	Not available
Water Solubility:	Soluble
Other Solubilities:	Not available
Initial Boiling Point And Boiling Range:	Boiling range not available
Evaporation Rate (BuAc = 1):	<0.01
Partition Coefficient: n-OCTANOL / WATER	Not available
Viscosity:	Not available
Refractive Index:	Not available
Formula Weight:	Mixture

10. STABILITY AND REACTIVITY

REACTIVITY: None under normal handling.

STABILITY: Stable at room temperature in closed containers under normal storage and handling conditions.

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION BY-PRODUCTS: Thermal oxidative decomposition can produce carbon monoxide, carbon dioxide and unknown organic compounds.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

CONDITIONS TO AVOID (POLYMERICATION): Hazardous polymerization will not occur.

HAZARDOUS POLYMERICATION BY-PRODUCT: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

SIGN AND SYMPTOMS OF OVEREXPOSURE: Swallowing larger amounts may cause nausea and vomiting, abdominal discomfort or diarrhea. May cause dizziness and drowsiness.

ACUTE EFFECTS:

EYE CONTACT	May cause slight eye irritation. May cause slight corneal injury.
SKIN CONTACT	Brief contact is essentially nonirritating to skin.
INHALATION	At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of the upper respiratory tract.

INGESTION	Toxic or fatal if ingested. For diethylene glycol, a component of this mixture, a lethal dose can be as little as two ounces. Symptoms of diethylene glycol poisoning include severe abdominal cramping, diarrhea, vomiting, sweating, confusion, cardiac abnormalities, neurological abnormalities, infrequent urination, intoxication or CNS depression. If left untreated, product will metabolize to cause metabolic acidosis, renal failure, hyperkalemia, hyponatremia, paralysis, cardiac failure or death. Seek medical attention immediately for poisoning. If ingested, DO NOT wait for symptoms to develop before getting treatment.

TARGET ORGAN EFFECTS: Product is toxic to kidneys, liver, central nervous system and heart. Metabolic products of diethylene glycol produce acidosis and organ toxicity effects.

CHRONIC EFFECTS: May cause dryness or defatting of the skin, dermatitis, or may aggravate existing skin conditions.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Various skin conditions.

ACUTE TOXICITY VALUES

Triethylene Glycol Monomethyl Ether
ORAL LD50 (rat): 11,842 mg/kg
DERMAL LD50 (rabbit): 7,441 mg/kg
INHALATION LC50 (state animal): data unavailable

Triethylene Glycol Monoethyl Ether
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Triethylene Glycol Monobutyl Ether
ORAL LD50 (rat): 5,300 mg/kg
DERMAL LD50 (rabbit): 3,505 mg/kg
INHALATION LC50 (state animal): data unavailable

Tetraethylene Glycol Monobutyl Ether
ORAL LD50 (rat): data unavailable
DERMAL LD50 (rabbit): data unavailable
INHALATION LC50 (state animal): data unavailable

Polyethylene Glycol
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monobutyl Ether
ORAL LD50 (rat): 5,660 mg/kg
DERMAL LD50 (rabbit): 2,700 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol
ORAL LD50 (rat): 12,565 mg/kg
DERMAL LD50 (rabbit): 11,890 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monomethyl Ether
ORAL LD50 (rat): >7,000 mg/kg
DERMAL LD50 (rabbit): >20,400 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monoethyl Ether
ORAL LD50 (rat): 10,502 mg/kg

DERMAL LD50 (rabbit): 9,143 mg/kg
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycol Monobutyl Ether
ORAL LD50 (rat): >2,000 mg/kg
DERMAL LD50 (rabbit): >2,000 mg/kg
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycol Monomethyl Ether
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycols
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

LISTED CARCINOGEN:

NATIONAL TOXICOLOGY PROGRAM REPORT ON CARCINOGENS
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC LISTED AS POTENTIAL CARCINOGEN
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA LISTED AS POTENTIAL CARCINOGEN
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. ECOLOGICAL INFORMATION

DATA FROM TOXICITY TESTS ON AQUATIC AND/OR TERRESTERIAL ORGANISMS:

Triethylene Glycol Monomethyl Ether: data unavailable

Triethylene Glycol Monoethyl Ether: data unavailable

Triethylene Glycol Monobutyl Ether: data unavailable

Tetraethylene Glycol Monobutyl Ether: data unavailable

Polyethylene Glycol
Fish: LC50 – Leuciscus idus (Golden orfe) <500 mg/l
Daphnia: data unavailable

Diethylene Glycol Monobutyl Ether
Fish: LC50 – Lepomis macrochirus – 1,300 mg/l – 96h
LC50 – Leuciscus idus (Golden orfe) - >1,000 mg/l – 48h
Daphnia: data unavailable

Diethylene Glycol
Fish: LC50 – Pimephales promelas (fathead minnow) – 75,200 mg/l – 96h
LC50 – Carassius auratus (goldfish) – 5,000 mg/l – 24h
Daphnia: EC50 – Daphnia magna (Water flea) - >10,000 mg/l – 24h

Diethylene Glycol Monomethyl Ether
Fish: LC50 – Lepomis macrochirus – 7,500 mg/l – 96h

Daphnia: data unavailable

Diethylene Glycol Monoethyl Ether
Fish: LC50 – Pimephales promelas (fathead minnow) – 9,650 mg/1 – 96h
Daphnia: EC50 – Daphnia magna (Water flea) - >3,340 mg/l – 24h

Polyalkylene Glycol Monobutyl Ether: data unavailable

Polyalkylene Glycol Monomethyl Ether: data unavailable

Polyalkylene Glycols: data unavailable

ENVIRONMENTAL FATE: data unavailable for mixture

BIOACCUMULATION POTENTIAL: data unavailable for mixture

POTENTIAL TO MOVE FROM SOIL TO GROUNDWATER: data unavailable for mixture

OTHER ADVERSE ENVIRONMENTAL EFFECTS: data unavailable for mixture

13. DISPOSAL CONSIDERATIONS

CONTAINERS TO USE: No specific recommendations.

RECOMMENDED DISPOSAL METHODS: Whatever cannot be saved for recovery or recycling should be disposed of in an approved waste facility in accordance with Federal, State/Provincial and Local requirements.

PHYSICAL AND CHEMICAL PROPERTIES THAT MAY AFFECT DISPOSAL ACTIVITIES: No specific information available/

WHENEVER POSSIBLE, MATERIAL SHOULD NOT BE ALLOWED TO ENTER SEWAGE DISPOSAL SYSTEMS.

SPECIAL PRECAUTIONS FOR LANDFILL OR INCINERATION ACTIVITIES: No specific information available.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (49 CFR 172.101)

PROPER SHIPING NAME: DOT 3 Brake Fluid
DOT Non-Bulk: Not Regulated
DOT Bulk: Not Regulated

IATA
Not Dangerous Goods

IMDG
Not Dangerous Goods

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (Toxic Substance Control Act): all components are listed on the TSCA Inventory.

CERCLA (Comprehensive Response Compensation and Liability Act): None. However, this product contains various ethylene glycols and glycol ethers which are each included as a broad category on the CERCLA Hazardous Substance list.

SARA TITLE III (Superfund Amendments and Reauthorization Act): No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

311/312 HAZARD CATEGORIES:
Immediate Hazard: yes
Delayed Hazard: yes
Fire Hazard: no
Pressure Hazard: no
Reactivity Hazard: no

313 REPORTABLE INGREDIENTS: The following components are subject to reporting levels established by SARA Title III, Section 313:

2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0
2-(2-methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5

CLEAN WATER ACT (CWA): None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

CLEAN AIR ACT (CAA): None of the chemicals in the product are listed as Hazardous Air Pollutants.

STATE REGULATIONS:

California: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts:

2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3

New Jersey:

Triethylene glycol monobutyl ether	CAS Number: 143-22-6
Polyethylene glycol	CAS Number: 25322-68-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5
Diethylene glycol	CAS Number: 111-46-6
2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0

Pennsylvania:

Triethylene glycol monobutyl ether	CAS Number: 143-22-6
Polyethylene glycol	CAS Number: 25322-68-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5
Diethylene glycol	CAS Number: 111-46-6
2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0

INTERNAL REGULATIONS:

Persistent Organic Pollutants (United Nations): not listed
Initial List of Prior Informed Consent Chemicals (United Nations): not listed
Ozone Depleting Substance (Montreal Protocol): not listed
Greenhouse Gases (Intergovernmental Panel on Climate Change): not listed

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES: All components are listed

CANADA: DOMESTIC SUBSTANCES LIST: All components are listed

CANADA WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): D2B – Toxic Material at >1%

CANADIAN ENVIRONMENTAL PROTECTION AGENCY TOXICS LIST: None of the components of this mixture are listed

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES: This material contains a component not listed on the EINECS Inventory: Polyalkylene glycol, CAS Number 9038-95-3.

NEW ZEALAND: All components are listed.

PHILLIPPINE INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES: All components are listed.

16. OTHER INFORMATION

Issue Date: 26-May-2015
Revision Date: 30-June-2015
Revision Note: New format

Disclaimer

This product is FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. DO NOT TAKE INTERNALLY.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

NAPA DOT 3 BRAKE FLUID

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Issue Date: March 5, 2014 **Revised: April 2, 2015**

Product Name: NAPA DUTY DOT 3 BRAKE FLUID
Synonyms: Brake Fluid
CAS Number: Mixture, see Section 3
Chemical Formula: Mixture
General Use: Brake Fluid
Manufacturer: Warren Unilube, Inc., 915 E. Jefferson, West Memphis, AR 72301

24-HOUR EMERGENCY NUMBER – CHEMTREC: 1-800-424-9300
WARREN UNILUBE PHONE: (800) 428-9284
FAX: (870) 400-3070

Restrictions on Use:

***FOR LABELS FOR THE GENERAL PUBLIC*:** If medical advice is needed, have product container or label at hand.

Keep out of reach of children and animals.

Read label before use.

***FOR THE INDUSTRIAL WORKER*:** Industrial use only.

SECTION 2: HAZARD(S) IDENTIFICATION

Hazard Classification:

OSHA Hazards: Target Organ Effect, Harmful by ingestion, Irritant, Teratogen, Reproductive hazard

Target Organs: Kidney, Liver, Central nervous system, Female reproductive system, Male reproductive system, Blood.

GHS Classification:

Acute toxicity, dermal (Category 5)
Acute toxicity, oral (Category 4)
Skin Irritation (Category 3)
Serious eye damage (Category 1)
Reproductive toxicity (Category 2)

Signal Word: WARNING

Hazard Statements:

H302	Harmful if swallowed
H313	May be harmful in contact with skin
H316	Causes mild skin irritation
H318	Causes serious eye damage
H361	Suspected of damaging fertility or the unborn child

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety instructions have been read and Understood.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear eye protection / face protection.
P301 +P312	IF SWALLOWED: Call a POISON CENTER or doctor / physician immediately.
P330	IF SWALLOWED: Rinse mouth.
P312	IF ON SKIN: Call a POISON CENTER or doctor / physician if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advise / attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	IF IN EYES: Immediately call a POISON CENTER or doctor / physician.
P308 + P313	If exposed or concerned: Get medical advice / attention.

20-80% of the mixture consists of ingredients of unknown acute toxicity.

HMIS Classification

Health hazard:	1
Chronic Health Hazard	
Flammability	1
Physical hazards	0

NFPA Rating

Health hazard:	1
Fire:	1
Reactivity	0

Description of Any Other Hazards Not Otherwise Classified: none known.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT Name:	**CAS NUMBER**	**%wt. or %V**
Triethylene Glycol Monomethyl Ether	112-35-6	5-50
Triethylene Glycol Monoethyl Ether	112-50-5	5-50
Triethylene Glycol Monobutyl Ether	143-22-6	5-50
Tetrathylene Glycol Monobutyl Ether	1559-34-8	5-20
Polyethylene Glycol	25322-68-3	5-20
Diethylene Glycol Monobutyl Ether	112-34-5	5-20
Diethylene Glycol	111-46-6	5-15
Diethylene Glycol Monomethyl Ether	111-77-3	<5
Diethylene Glycol Monoethyl Ether	111-90-0	<5
Polyalkylene Glycol Monobutyl Ether	9004-77-7	5-20
Polyalkylene Glycol Monomethyl Ether	23783-42-8	5-20
Polyalkylene Glycols	9038-95-3	5-20
Trade Secret Inhibitor Package	Trade Secret	3

3% of the composition of this material has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURE

EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation continues or persists, get medical advice / attention.

SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice / attention.

INGESTION: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treatment should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak, and disperse vapors.

UNSUITABLE EXTINGUISHING MEDIA: Direct water stream.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area. Do not use direct water stream to extinguish fires. Do not release runoff from fire control methods to sewers or waterways.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, and unidentified organic compounds.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: Wear full protective clothing and NIOSH – approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive breathing mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use appropriate personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with spilled material. Insure adequate ventilation. Remove all sources of ignition. Use non-sparking tools and equipment.

PROTECTIVE CLOTHING: Standard work uniform. Impervious gloves. Safety glasses. Personnel should increase PPE level as deemed appropriate in any given situation.

EMERGENCY PROCEDURES:

SMALL SPILLS: Contain and recover liquid when possible. Collect liquid in appropriate container or absorb with an inert material (such as vermiculite or dry sand) and place in chemical waste container. Do not use combustible materials such as sawdust for the cleanup.

LARGE SPILLS:
Containment: Shut off source of leak if safe to do so. Dike far ahead of liquid spill for later disposal. Do not allow material to enter sewers or waterways.
Cleanup: Contain and recover liquid when possible. Collect liquid in appropriate container. Absorb residue with an inert material (such as vermiculite or dry sand) and place in chemical waster container. Do not use combustible materials such as sawdust for the cleanup.

SECTION 7: HANDLING AND STORAGE

HANDLING PRECAUTIONS: May be harmful or fatal if swallowed.

STORAGE REQUIREMENTS: Store in a cool dry, ventilated area.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Controls should be such that adequate ventilation is provided.

VENTILATION: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work place by controlling it at its source.

RESPIRATORY PROTECTION: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA / NIOSH approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (e.g. cleaning spills, reactor vessels, or storage tanks), wear an SCBA. ***Warning!*** *Air purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

EYE PROTECTION: Wear protective eyeglasses or chemical safety goggles, per OSHA eye-and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.

SKIN PROTECTION: Wear chemically protective gloves, boots, aprons and gauntlets to prevent prolonged or repeated skin contact.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Make emergency eyewash stations, safety / quick drench showers and washing facilities available in work areas.

WORK HYGIENIC PRACTICES: Never eat, drink or smoke in work areas. Practice good personal hygiene after using this material especially before eating, drinking or smoking, using the toilet, or applying cosmetics. Separate contaminate work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Discard belts and shoes that cannot be cleaned.

EXPOSURE GUIDELINES:

	OSHA PEL		ACGIH TLV		NIOSH REL		
Ingredient	**TWA**	**STEL**	**TWA**	**STEL**	**TWA**	**STEL**	**USA WEEL**
Triethylene Glycol Monomethyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.

Triethylene Glycol Monoethyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Triethylene Glycol Monobutyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Tetraethylene Glycol Monobutyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Polyethylene Glycol	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	10 mg/m3
Diethylene Glycol Monobutyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Diethylene Glycol	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	10 mg/m3
Diethylene Glycol Monomethyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	25 ppm
Diethylene Glycol Monoethyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Diethylene Glycol Monobutyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Polyalkylene Glycol Monobutyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Polyalkylene Glycol Monomethyl Ether	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Polyalkylene Glycols	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Inhibitor Package	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
APPEARANCE AND COLOR: Yellow to amber
ODOR: Mild
FLASH POINT: >275°F (>135°C)
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: not available
AUTO IGNITION TEMPERATURE: not available
DECOMPOSITION TEMPERATURE: not available
VAPOR PRESSURE: not available
ODOR THRESHOLD: not available

VAPOR DENSITY (air = 1): >1
pH: 10.0 – 11.5
RELATIVE DENSITY: 8.33 – 9.02 lb/gal
SPECIFIC GRAVITY (H2O = 1 AT 4 C): 1.000 – 1.070
MELTING POINT / FREEZING POINT: not available
WATER SOLUBILITY: soluble
OTHER SOLUBILITIES: not available
INITIAL BOILING POINT AND BOILING RANGE: 480°F (248.9°C), boiling range not available
EVAPORATION RATE (BuAc = 1): <0.01
PARTITION COEFFICIENT: n-OCTANOL/WATER: not available
VISCOSITY: not available
REFRACTIVE INDEX: not available
FORMULA WEIGHT: mixture

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: none under normal handling.

STABILITY: stable at room temperature in closed containers under normal storage and handling conditions.
CONDITIONS TO AVOID (STABILITY): none known.

INCOMPATIBILITY (MATERIAL TO AVOID): none known.

HAZARDOUS DECOMPOSITION BY-PRODUCTS: Thermal oxidative decomposition can produce carbon monoxide, carbon dioxide and unknown organic compounds.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

CONDITIONS TO AVOID (POLYMERIZATION): Hazardous polymerization will not occur.

HAZARDOUS POLYMERICATION BY-PRODUCTS: Hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Swallowing larger amounts may cause nausea and vomiting, abdominal discomfort or diarrhea. May cause dizziness and drowsiness.

ACUTE EFFECTS:

EYE CONTACT: May cause slight eye irritation. May cause slight corneal injury.

SKIN CONTACT: Brief contact is essentially nonirritating to skin.

INHALATION: At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of the upper respiratory tract.

INGESTION: Toxic or fatal if ingested. For diethylene glycol, a component of this mixture, a lethal dose can be as little as two ounces. Symptoms of diethylene glycol poisoning include severe abdominal cramping, diarrhea, vomiting, sweating, confusion, cardiac abnormalities, neurological abnormalities, infrequent urination, intoxication or CNS depression. If left untreated, product will metabolize to cause metabolic acidosis, renal failure, hyperkalemia, hyponatremia, paralysis, cardiac failure or death. Seek medical attention immediately for poisoning. If ingested, DO NOT wait for symptoms to develop before getting treatment.

TARGET ORGAN EFFECTS: Product is toxic to kidneys, liver, central nervous system and heart. Metabolic products of diethylene glycol produce acidosis and organ toxicity effects.

CHRONIC EFFECTS: May cause dryness or defatting of the skin, dermatitis, or may aggravate existing skin conditions.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Various skin conditions.

ACUTE TOXICITY VALUES

Triethylene Glycol Monomethyl Ether
ORAL LD50 (rat): 11,842 mg/kg
DERMAL LD50 (rabbit): 7,441 mg/kg
INHALATION LC50 (state animal): data unavailable

Triethylene Glycol Monoethyl Ether
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Tetraethylene Glycol Monobutyl Ether
ORAL LD50 (rat): 5,300 mg/kg
DERMAL LD50 (rabbit): 3,505 mg/kg
INHALATION LC50 (state animal): data unavailable

Polyethylene Glycol
ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monobutyl Ether
ORAL LD50 (rat): 5,660 mg/kg
DERMAL LD50 (rabbit): 2,700 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol
ORAL LD50 (rat): 12,565 mg/kg
DERMAL LD50 (rabbit): 11,890 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monomethyl Ether

ORAL LD50 (rat): >7,000 mg/kg
DERMAL LD50 (rabbit): >20,400 mg/kg
INHALATION LC50 (state animal): data unavailable

Diethylene Glycol Monoethyl Ether

ORAL LD50 (rat): 10,502 mg/kg
DERMAL LD50 (rabbit): 9,143 mg/kg
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycol Monobutyl Ether

ORAL LD50 (rat): >2,000 mg/kg
DERMAL LD50 (rat): >2,000 mg/kg
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycol Monomethyl Ether

ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

Polyalkylene Glycols

ORAL LD50 (state animal): data unavailable
DERMAL LD50 (state animal): data unavailable
INHALATION LC50 (state animal): data unavailable

LISTED CARCINOGEN:

NATIONAL TOXICOLOGY PROGRAM REPORT ON CARCINOGENS: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC LISTED AS POTENTIAL CARCINOGEN: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA LISTED AS POTENTIAL CARCINOGEN: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

SECTION 12: ECOLOGICAL INFORMATION

DATA FROM TOXICITY TESTS ON AQUATIC AND/OR TERRESTERIAL ORGANISMS:

Triethylene Glycol Monoethyl Ether: data unavailable
Triethylene Glycol Monobutyl Ether: data unavailable

Tetraethylene Glycol Monobutyl Ether: data unavailable

Polyethylene Glycol

Fish: LC50 – Leuciscus idus (Golden orfe) <500 mg/l
Daphnia: data unavailable

Diethylene Glycol Monobutyl Ether

Fish: LC50 – Lepomis macrochirus – 1,300 mg/l – 96h
LC50 – Leuciscus idus (Golden orfe) – >1,000 mg/l – 48h
Daphnia: data unavailable

Diethylene Glycol

Fish: LC50 – Pimephales promelas (fathead minnow) – 75,200 mg/l – 96h
LC50 – Carassius auratus (goldfish) – 5,000 mg/l – 24h
Daphnia: EC50 – Daphnia magna (Water flea) - >10,000 mg/l – 24h

Diethylene Glycol Monomethyl Ether

Fish: LC50 – Lepomis macrochirus – 7,500 mg/l – 96h
Daphnia: data unavailable

Diethylene Glycol Monoethyl Ether

Fish: LC50 – Pimephales promelas (fathead minnow) – 9,650 mg/l – 96h
Daphnia: EC50 – Daphnia magna (Water flea) - >3,340 mg/l – 24h

Polyalkylene Glycol Monobutyl Ether: data unavailable

Polyalkylene Glycol Monomethyl Ether: data unavailable

Polyalkylene Glycols: data unavailable

ENVIRONMENTAL FATE: data unavailable for mixture

BIOACCUMULATION POTENTIAL: data unavailable for mixture

POTENTIAL TO MOVE FROM SOIL TO GROUNDWATER: data unavailable for mixture

OTHER ADVERS ENVIRONMENTAL EFFECTS: data unavailable for mixture

SECTION 13: DISPOSAL CONSIDERATIONS

CONTAINERS TO USE: No specific recommendations

RECOMMENDED DISPOSAL METHODS: Whatever cannot be saved for recovery or recycling should be disposed of in an approved waste facility in accordance with Federal, State/Provincial and Local requirements.

PHYSICAL AND CHEMICAL PROPERTIES THAT MAY AFFECT DISPOSAL ACTIVITIES: No specific information available.

WHENEVER POSSIBLE, MATERIAL SHOULD NOT BE ALLOWED TO ENTER SEWAGE DISPOSAL SYSTEMS.

SPECIAL PRECAUTIONS FOR LANDFILL OR INCINERATION ACTIVITIES: No specific information available.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (49 CFR 172.101)

PROPER SHIPPING NAME: DOT 3 Brake Fluid
DOT Non-Bulk: Not Regulated
DOT Bulk: Not Regulated

IATA

Not Dangerous Goods

IMDG

Not Dangerous Goods

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): all components are listed on the TSCA Inventory

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): None. However, this product contains various ethylene glycols and glycol ethers which are each included as a broad category on the CERCLA Hazardous Substances list.

SARA TITLE III (SUPERFUND AMENDMENTS ANDA REAUTHORIZATION ACT): No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

311/312 HAZARD CATEGORIES:

Immediate Hazard: yes / no
Delayed Hazard: yes / no
Fire Hazard: yes / no
Pressure Hazard: yes / no
Reactivity Hazard: yes / no

313 REPORTABLE INGREDIENTS: The following components are subject to reporting levels established by SARA Title III, Section 313:

2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0
2-(2-methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5

CLEAN WATER ACT (CWA): None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

CLEAN AIR ACT (CAA): None of the chemicals in the product are listed as Hazardous Air Pollutants.

STATE REGULATIONS:

California: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts:

2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3

New Jersey:

Triethylene glycol monobutyl ether	CAS Number: 143-22-6
Polyethylene glycol	CAS Number: 25322-68-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5
Diethylene glycol	CAS Number: 111-46-6
2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0

Pennsylvania:

Triethylene glycol monobutyl ether	CAS Number: 143-22-6
Polyethylene glycol	CAS Number: 25322-68-3
2-(2-Butoxyethoxy) ethanol	CAS Number: 112-34-5
Diethylene glycol	CAS Number: 111-46-6
2-(2-Methoxyethoxy) ethanol	CAS Number: 111-77-3
2-(2-Ethoxyethoxy) ethanol	CAS Number: 111-90-0

INTERNAL REGULATIONS:

Persistent Organic Pollutants (United Nations): not listed
Initial List of Prior Informed Consent Chemicals (United Nations): not listed
Ozone Depleting Substances (Montreal Protocol): not listed
Greenhouse Gases (Intergovernmental Panel on Climate Change): not listed

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES: All components are listed.

CANADA: DOMESTIC SUBSTANCES LIST: All components are listed.

CANADA WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): D2B - Toxic Material at >1%.

CANADIAN ENVIRONMENTAL PROTECTION AGENCY TOXICS LIST: None of the components of this mixture are listed.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES: This material contains components not listed on the EINECS Inventory: Polyalkylene glycols, CAS Number 9038-95-3.

NEW ZEALAND: All components are listed.

PHILLIPPINE INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES: All components are listed.

SECTION 16: REGULATORY INFORMATION

Disclaimer: This product is FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH CHILDREN AND ANIMALS. DO NOT TAKE INTERNALLY.

Warren Unilube, Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. No warranty of fitness for any particular purpose, warranty of merchantability, or any other warranty expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specific product designated and may not be valid where such products is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and of the information referred to herein are beyond the control of Warren Unilube, Warren Unilube expressly disclaims any and all liability as to any results obtained or arising from any of the product or reliance on such information.

For additional product information, please contact Warren Unilube, Inc. at (800) 428-9284.

SAFETY DATA SHEET

1413

Section 1. Identification

Product name : NAPA® Dry Graphite Film Lubricant

Product code : 1413

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Manufactured for:
Automotive Redistribution Center
c/o Balkamp, Inc.
Corporate Office:
Indianapolis, IN 46241

Emergency telephone number of the company : (800) 535-5053

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION (Fertility) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 42.1%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging fertility.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Hexane	27.3	110-54-3
Propane	17.9	74-98-6
Butane	17.1	106-97-8
2-Methylpentane	12.6	107-83-5
2-Propanol	10.2	67-63-0
3-Methylpentane	4.7	96-14-0
2,3-Dimethylbutane	4.0	79-29-8
Cyclohexane	1.6	110-82-7
2,2-Dimethylbutane	1.4	75-83-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Hexane	**ACGIH TLV (United States, 4/2014).** **Absorbed through skin.** TWA: 50 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 180 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 500 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes.
2-Methylpentane	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours. TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.
2-Propanol	**ACGIH TLV (United States, 4/2014).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.
3-Methylpentane	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours.

	TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.
2,3-Dimethylbutane	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours. TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.
Cyclohexane	**ACGIH TLV (United States, 4/2014).** TWA: 100 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 300 ppm 10 hours. TWA: 1050 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 300 ppm 8 hours. TWA: 1050 mg/m³ 8 hours.
2,2-Dimethylbutane	**ACGIH TLV (United States, 4/2014).** TWA: 500 ppm 8 hours. TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 9.1 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.7%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.63

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.07 cm^2/s (<7 cSt)
Kinematic (40°C (104°F)): <0.07 cm^2/s (<7 cSt)

Aerosol product

Type of aerosol : Spray

Heat of combustion : 0.00004155 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LD50 Oral	Rat	15840 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
2-Propanol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Cyclohexane	LD50 Oral	Rat	6240 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hexane	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
2-Propanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
2-Propanol	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Hexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Methylpentane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Propanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
3-Methylpentane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2,3-Dimethylbutane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Cyclohexane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2,2-Dimethylbutane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Hexane	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
2-Methylpentane	Category 2	Not determined	Not determined
2-Propanol	Category 2	Not determined	Not determined
3-Methylpentane	Category 2	Not determined	Not determined
2,3-Dimethylbutane	Category 2	Not determined	Not determined
Cyclohexane	Category 2	Not determined	Not determined
2,2-Dimethylbutane	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Hexane	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
2-Methylpentane	ASPIRATION HAZARD - Category 1
3-Methylpentane	ASPIRATION HAZARD - Category 1
2,3-Dimethylbutane	ASPIRATION HAZARD - Category 1
Cyclohexane	ASPIRATION HAZARD - Category 1
2,2-Dimethylbutane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	28358.8 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Hexane	Acute LC50 2500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
2-Propanol	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
Cyclohexane	Acute LC50 4530 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Propanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hexane	-	501.187	high
Cyclohexane	-	167	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY	**Special provisions** LIMITED QUANTITY	**Special provisions** (ERG#126)	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		4
Physical hazards		0

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1. Identification

Product identifier	**NAPA® Electronic Cleaner, 11 Wt Oz**
Other means of identification	
Product code	091843
Recommended use	Electronic cleaner
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Wash thoroughly after handling. Wear protective gloves. Avoid release to the environment.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

96.1% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Naphtha (petroleum), hydrotreated light		64742-49-0	70 - 80
1,1-Difluoroethane	HFC-152a	75-37-6	20 - 30
n-Hexane		110-54-3	3 - 5
2,2-Dimethylbutane		75-83-2	< 0.2
2-Methylpentane		107-83-5	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Remove all possible sources of ignition in the surrounding area. Many vapors are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Prevent product from entering drains. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	Ceiling	1800 mg/m3 510 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
	TWA	350 mg/m3 100 ppm
2-Methylpentane (CAS 107-83-5)	Ceiling	1800 mg/m3 510 ppm
	TWA	350 mg/m3 100 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,1-Difluoroethane (CAS 75-37-6)	TWA	2700 mg/m3 1000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC). Viton®.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Alcoholic.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range	123 °F (50.6 °C) estimated
Flash point	< 0 °F (< -17.8 °C) Tag Closed Cup
Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 % estimated
Flammability limit - upper (%)	19 % estimated
Vapor pressure	175 mmHg (68 °F (20 °C))
Vapor density	> 1 (air = 1)
Relative density	0.72 estimated
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	489.2 °F (254 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	100 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological Information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects.

Product	Species	Test Results
NAPA® Electronic Cleaner, 11 Wt Oz		
Acute		
Dermal		
LD50	Rabbit	2696 mg/kg estimated
Inhalation		
LC50	Rat	26392 ppm, 4 hours estimated
		27 mg/l, 4 hours estimated

Product	Species	Test Results
Oral		
LD50	Rat	19828 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
NAPA® Electronic Cleaner, 11 Wt Oz			
Aquatic			
Fish	LC50	Fish	1553.8115 mg/l, 96 hours estimated
Acute			
Crustacea	EC50	Daphnia	1754.8054 mg/l, 48 hours estimated

Components		Species	Test Results
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
1,1-Difluoroethane	0.75
2,2-Dimethylbutane	3.82
2-Methylpentane	3.74
n-Hexane	3.9

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity, MARINE POLLUTANT (Hexanes)
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	Yes.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY, MARINE POLLUTANT
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

n-Hexane (CAS 110-54-3)

CERCLA Hazardous Substance List (40 CFR 302.4)

n-Hexane (CAS 110-54-3) Listed.

CERCLA Hazardous Substances: Reportable quantity

n-Hexane (CAS 110-54-3) 5000 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

n-Hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

1,1-Difluoroethane (CAS 75-37-6)

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Naphtha (petroleum), hydrotreated light (CAS 64742-49-0)
n-Hexane (CAS 110-54-3)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

1,1-Difluoroethane (CAS 75-37-6)
n-Hexane (CAS 110-54-3)
Ethanol (CAS 64-17-5)

US. Massachusetts RTK - Substance List

1,1-Difluoroethane (CAS 75-37-6)
n-Hexane (CAS 110-54-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Isopropyl alcohol (CAS 67-63-0)
Methanol (CAS 67-56-1)
n-Hexane (CAS 110-54-3)

US. Rhode Island RTK

1,1-Difluoroethane (CAS 75-37-6)
n-Hexane (CAS 110-54-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Methyl isobutyl ketone (CAS 108-10-1)	Listed: November 4, 2011

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1)	Listed: March 16, 2012
Methyl isobutyl ketone (CAS 108-10-1)	Listed: March 28, 2014

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	75 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as an Electronic Cleaner. This product is compliant for use in all 50 states.
VOC content (CA)	75 %
VOC content (OTC)	75 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-07-2015

Prepared by Allison Cho

Version # 01

Further information CRC # 985

HMIS® ratings
Health: 1
Flammability: 4
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 1
Flammability: 4
Instability: 0

NFPA ratings

Disclaimer

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

1072

Section 1. Identification

Product name : NAPA® Mac's® Battery Terminal Cleaner

Product code : 1072

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Manufactured for:
Automotive Redistribution Center
c/o Balkamp, Inc.
Corporate Office:
Indianapolis, IN 46241

Emergency telephone number of the company : (800) 535-5053

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not breathe dust or mist. Pressurized container: Do not pierce or burn, even after use.

Section 2. Hazards identification

Response : Get medical attention if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Butane	≥6.85 - <8.61	106-97-8
2-Propanol	≥5 - <6	67-63-0
Propane	≥3.15 - <3.96	74-98-6
Sodium Bicarbonate	≥3 - <3.3	144-55-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
2-Propanol	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Sodium Bicarbonate	None.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 1.44 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.9%
Upper: 12.7%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1 [Air = 1]

Relative density : 0.92

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Section 9. Physical and chemical properties

Type of aerosol : Spray

Heat of combustion : 6.056 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
2-Propanol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Sodium Bicarbonate	LD50 Oral	Rat	4220 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-Propanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Sodium Bicarbonate	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 30 milligrams Intermittent	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
2-Propanol	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Propanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Butane	Category 2	Not determined	Not determined
2-Propanol	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Butane	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	52884.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-Propanol	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
Sodium Bicarbonate	Acute EC50 650000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 767.87 mg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 7550 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 576 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	3 weeks

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Propanol	-	-	Readily

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** (ERG#126) **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

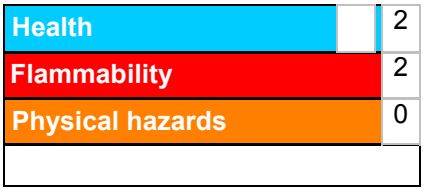
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
Flam. Aerosol 1, H222	On basis of test data
Press. Gas Comp. Gas, H280	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method

History

Date of printing : 11/28/2015

Date of issue/Date of revision : 11/28/2015

Date of previous issue : 4/6/2015

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

Section 16. Other information

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

1072

Section 1. Identification

Product name : NAPA® Mac's® Battery Terminal Cleaner

Product code : 1072

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : Manufactured for:
Automotive Redistribution Center
c/o Balkamp, Inc.
Corporate Office:
Indianapolis, IN 46241

Emergency telephone number of the company : (800) 535-5053

Product Information Telephone Number : Not available.

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.2%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Pressurized container: Do not pierce or burn, even after use. Do not spray on an open flame or other ignition source. Do not breathe dust or mist.

Section 2. Hazards identification

Response : Get medical attention if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Butane	6.8	106-97-8
2-Propanol	5.9	67-63-0
Propane	3.1	74-98-6
Sodium Bicarbonate	3.0	144-55-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes.
2-Propanol	**ACGIH TLV (United States, 4/2014).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 400 ppm 10 hours. TWA: 980 mg/m³ 10 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 1.44 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.9%
Upper: 12.7%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1 [Air = 1]

Relative density : 0.92

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.07 cm^2/s (<7 cSt)
Kinematic (40°C (104°F)): <0.07 cm^2/s (<7 cSt)

Aerosol product

Type of aerosol : Spray

Section 9. Physical and chemical properties

Heat of combustion : 0.000006056 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
2-Propanol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Sodium Bicarbonate	LD50 Oral	Rat	4220 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-Propanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Sodium Bicarbonate	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 30 milligrams Intermittent	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
2-Propanol	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2-Propanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Butane	Category 2	Not determined	Not determined
2-Propanol	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Butane	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	52884.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-Propanol	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
Sodium Bicarbonate	Acute EC50 650000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 767.87 mg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 7550 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 576 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	3 weeks

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-Propanol	-	-	Readily

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY	**Special provisions** LIMITED QUANTITY	**Special provisions** (ERG#126)	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

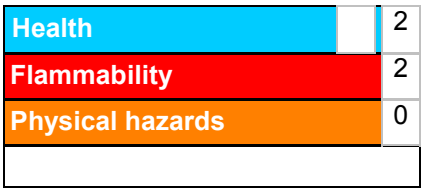
State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

MATERIAL SAFETY DATA SHEET

8700C
04 00

DATE OF PREPARATION
Aug 8, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
8700C
PRODUCT NAME
NAPA® Mac's® Carb, Choke, & Throttle Body Cleaner
MANUFACTURER'S NAME
Manufactured by:
The Sherwin-Williams Co.
Diversified Brands
Cleveland, OH 44115

Distributed by:
Balkamp Headquarters
P. O. Box 421268
Indianapolis, IN 46242

Telephone Numbers and Websites

Product Information	www.balkamp.com
Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
12	**74-98-6**	**Propane**		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
12	**106-97-8**	**Butane**		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
25	**108-88-3**	**Toluene**		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
3	**100-41-4**	**Ethylbenzene**		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
17	**1330-20-7**	**Xylene**		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
4	**67-56-1**	**Methanol**		
		ACGIH TLV	200 ppm (Skin)	92 mm
		ACGIH TLV	250 ppm (Skin) STEL	
		OSHA PEL	200 ppm (Skin)	
		OSHA PEL	250 ppm (Skin) STEL	
2	**123-42-2**	**Diacetone Alcohol**		
		ACGIH TLV	50 PPM	1.2 mm
		OSHA PEL	50 PPM	
25	**67-64-1**	**Acetone**		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	

SECTION 3 — HAZARDS IDENTIFICATION

HMIS Codes

Health	3*
Flammability	4
Reactivity	0

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the cardiovascular system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	EXTINGUISHING MEDIA
Propellant < 0 °F	1.0	36.5	Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.11 lb/gal	732 g/l
SPECIFIC GRAVITY	0.74	
BOILING POINT	<0 - 342 °F	<-18 - 172 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	100%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 75.00% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.
Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
106-97-8	Butane			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
108-88-3	Toluene			
		LC50 RAT	4HR	4000 ppm
		LD50 RAT		5000 mg/kg
100-41-4	Ethylbenzene			
		LC50 RAT	4HR	Not Available
		LD50 RAT		3500 mg/kg
1330-20-7	Xylene			
		LC50 RAT	4HR	5000 ppm
		LD50 RAT		4300 mg/kg
67-56-1	Methanol			
		LC50 RAT	4HR	64000 ppm
		LD50 RAT		5630 mg/kg
123-42-2	Diacetone Alcohol			
		LC50 RAT	4HR	Not Available
		LD50 RAT		4000. mg/kg
67-64-1	Acetone			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	25	
100-41-4	Ethylbenzene	3	
1330-20-7	Xylene	17	
67-56-1	Methanol	4	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

SAFETY DATA SHEET

1. Identification

Product identifier **Napa Mac's Carburetor Cleaner with Dipping Basket**

Other means of identification

SDS number 6402

Part No. 6402

Tariff code 3814.00.5090

Recommended use Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name RSC Chemical Solutions

Address 600 Radiator Road
Indian Trail, NC 28079
United States

Telephone Customer Service: (704) 821-7643
Technical: (704) 684-1811

Website www.rscbrands.com

E-mail Not available.

Emergency phone number Emergency Telephone: (303) 623-5716
Emergency Contact: RMPDC (877-740-5015)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 2
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Combustible liquid. Harmful if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. Fatal if inhaled. May cause drowsiness or dizziness. May cause genetic defects. Suspected of causing cancer. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.
Response	If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Combustible.
Supplemental information	49.75% of the mixture consists of component(s) of unknown acute oral toxicity. 53.71% of the mixture consists of component(s) of unknown acute dermal toxicity. 16.97% of the mixture consists of component(s) of unknown acute inhalation toxicity. 37.25% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 35.57% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-Butoxyethanol		111-76-2	20 - < 30
Distillates (petroleum), Hydrotreated Light		64742-47-8	20 - < 30
Petroleum naphtha		64742-94-5	10 - < 20
Tert-butylbenzene		98-06-6	1 - < 3
Triéthanolamine		102-71-6	1 - < 3
DIETHANOLAMINE		111-42-2	< 1
NAPHTHALENE		91-20-3	< 1
Diethylbenzene		25340-17-4	< 0.3
Other components below reportable levels			30 - < 40

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Diarrhea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Combustible. Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, hot surfaces and sources of ignition. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat and sources of ignition. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep out of the reach of children. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3
		50 ppm
NAPHTHALENE (CAS 91-20-3)	PEL	50 mg/m3
		10 ppm
Petroleum naphtha (CAS 64742-94-5)	PEL	400 mg/m3
		100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm	
DIETHANOLAMINE (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
NAPHTHALENE (CAS 91-20-3)	TWA	10 ppm	
Petroleum naphtha (CAS 64742-94-5)	TWA	200 mg/m3	Non-aerosol.
Triéthanolamine (CAS 102-71-6)	TWA	5 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Butoxyethanol (CAS 111-76-2)	TWA	24 mg/m3
		5 ppm
DIETHANOLAMINE (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)	TWA	100 mg/m3
NAPHTHALENE (CAS 91-20-3)	STEL	75 mg/m3
		15 ppm
	TWA	50 mg/m3
		10 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Diethylbenzene (CAS 25340-17-4)	TWA	5 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Butoxyethanol (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.
DIETHANOLAMINE (CAS 111-42-2)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Butoxyethanol (CAS 111-76-2)	Skin designation applies.

US - Tennessee OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

DIETHANOLAMINE (CAS 111-42-2)	Can be absorbed through the skin.
NAPHTHALENE (CAS 91-20-3)	Can be absorbed through the skin.
Petroleum naphtha (CAS 64742-94-5)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Butoxyethanol (CAS 111-76-2)	Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid. Clear.
Physical state	Liquid.
Form	Liquid.
Color	Pale yellow
Odor	Aromatic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-102.64 °F (-74.8 °C) estimated
Initial boiling point and boiling range	335.12 °F (168.4 °C) estimated
Flash point	146.0 °F (63.3 °C) Tag Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.6 hPa estimated
Vapor density	Not available.
Relative density	Not available.

Solubility(ies)

Solubility (water)	Not available.

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	410 °F (210 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	7.69 lbs/gal
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	43 % estimated
Specific gravity	0.92
VOC (Weight %)	<44%

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Fatal if inhaled. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Toxic in contact with skin. Causes skin irritation. 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans. Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Diarrhea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Fatal if inhaled. Toxic in contact with skin. Harmful if swallowed. Narcotic effects.

Components	Species	Test Results
2-Butoxyethanol (CAS 111-76-2)		
Acute		
Dermal		
LD50	Rabbit	400 mg/kg
Inhalation		
LC50	Mouse	700 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
Oral		
LD50	Guinea pig	1.2 g/kg
	Mouse	1.2 g/kg

Components	Species	Test Results
	Rabbit	0.32 g/kg
	Rat	560 mg/kg
DIETHANOLAMINE (CAS 111-42-2)		
Acute		
Dermal		
LD50	Rabbit	11.9 ml/kg
Oral		
LD50	Rat	710 mg/kg
NAPHTHALENE (CAS 91-20-3)		
Acute		
Dermal		
LD50	Rabbit	> 2 g/kg
	Rat	> 20 g/kg
Oral		
LD50	Guinea pig	1200 mg/kg
	Rat	490 mg/kg
Petroleum naphtha (CAS 64742-94-5)		
Acute		
Inhalation		
LC50	Rat	61 mg/l, 4 Hours
Oral		
LD50	Rat	> 25 ml/kg
Triéthanolamine (CAS 102-71-6)		
Acute		
Dermal		
LD50	Rabbit	> 20000 mg/kg
Oral		
LD50	Guinea pig	5300 mg/kg
	Rat	8 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

2-Butoxyethanol (CAS 111-76-2)	3 Not classifiable as to carcinogenicity to humans.
DIETHANOLAMINE (CAS 111-42-2)	2B Possibly carcinogenic to humans.
NAPHTHALENE (CAS 91-20-3)	2B Possibly carcinogenic to humans.
Triéthanolamine (CAS 102-71-6)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

NAPHTHALENE (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects May be harmful if absorbed through skin. Prolonged inhalation may be harmful.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Prolonged exposure may cause chronic effects.

Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
2-Butoxyethanol (CAS 111-76-2)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours
DIETHANOLAMINE (CAS 111-42-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
NAPHTHALENE (CAS 91-20-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	1.11 - 1.68 mg/l, 96 hours
Petroleum naphtha (CAS 64742-94-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
Triéthanolamine (CAS 102-71-6)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10610 - 13010 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
2-Butoxyethanol	0.83
DIETHANOLAMINE	-1.43
NAPHTHALENE	3.3
Tert-butylbenzene	4.11
Triéthanolamine	-1

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	Not available.
UN proper shipping name	Consumer commodity (Solvent Naphtha Heavy Aromatic Petroleum)
Transport hazard class(es)	
Class	ORM-D
Subsidiary risk	-
Label(s)	None
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	156, 306
Packaging non bulk	156, 306
Packaging bulk	None

IATA

UN number	ID8000
UN proper shipping name	Consumer commodity
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1223
UN proper shipping name	KEROSENE SOLUTION (Petroleum naphtha)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

IATA

IMDG

General information IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Butoxyethanol (CAS 111-76-2)	Listed.
DIETHANOLAMINE (CAS 111-42-2)	Listed.
NAPHTHALENE (CAS 91-20-3)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
2-Butoxyethanol	111-76-2	20 - < 30
DIETHANOLAMINE	111-42-2	< 1
NAPHTHALENE	91-20-3	< 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

DIETHANOLAMINE (CAS 111-42-2)
NAPHTHALENE (CAS 91-20-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)
NAPHTHALENE (CAS 91-20-3)
Petroleum naphtha (CAS 64742-94-5)
Tert-butylbenzene (CAS 98-06-6)

US. Massachusetts RTK - Substance List

2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)
NAPHTHALENE (CAS 91-20-3)
Tert-butylbenzene (CAS 98-06-6)
Triéthanolamine (CAS 102-71-6)

US. New Jersey Worker and Community Right-to-Know Act

2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
Diethylbenzene (CAS 25340-17-4)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)
NAPHTHALENE (CAS 91-20-3)
Petroleum naphtha (CAS 64742-94-5)
Tert-butylbenzene (CAS 98-06-6)
Triéthanolamine (CAS 102-71-6)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)
NAPHTHALENE (CAS 91-20-3)
Tert-butylbenzene (CAS 98-06-6)
Triéthanolamine (CAS 102-71-6)

US. Rhode Island RTK

2-Butoxyethanol (CAS 111-76-2)
DIETHANOLAMINE (CAS 111-42-2)
NAPHTHALENE (CAS 91-20-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

DIETHANOLAMINE (CAS 111-42-2)	Listed: June 22, 2012
NAPHTHALENE (CAS 91-20-3)	Listed: April 19, 2002

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-01-2015

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : NAPA® MAC'S PREMIUM STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Acute toxicity (Oral)	:	Category 4
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.

Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Static Accumulator

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Acute 2; H401 Aquatic Chronic 2; H411	67.75
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	29.33
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	2.71
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.75
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.43
TOLUENE	108-88-3	Flam. Liq. 2; H225	0.18

		Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361 STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.

Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm 9,000 mg/m3	NIOSH/GUIDE
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE

		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Material	:	Nitrile rubber
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: impervious clothing Safety shoes Flame-resistant clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	aerosol
Colour	:	colourless
Odour	:	ether-like
Odour Threshold	:	No data available
pH	:	No data available
	:	No data available
Boiling point/boiling range	:	94.3 °F / 34.6 °C

		(1,013.232 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	-49 °F / -45 °C Calculated Flash Point
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	36.5 %(V) Calculated Explosive Limit
Lower explosion limit	:	1.05 %(V) Calculated Explosive Limit
Vapour pressure	:	717.2616 hPa (25 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.706 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. excessive heat

Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide formaldehyde-like Hydrocarbons organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Eye Contact Ingestion

Acute toxicity
Harmful if swallowed.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:

Acute oral toxicity	:	LD 50 (Rat): > 8,000 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): 3400 ppm Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER:

Acute oral toxicity	:	LD50 (Rat): 1,200 - 1,700 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): 32,000 mg/l Exposure time: 4 h

n-HEPTANE:

Acute oral toxicity	:	LD 50 (Rat): Expected > 5,000 mg/kg Remarks: Information given is based on data obtained from similar substances.
Acute inhalation toxicity	:	LC 50 (Rat, male and female): > 29.29 mg/l Exposure time: 4 h Test atmosphere: vapour

Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l
Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE**:**
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE**:**
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to skin

ETHYL ETHER**:**
Result: Irritating to skin

n-HEPTANE**:**
Result: Irritating to skin

CARBON DIOXIDE**:**
Result: Not irritating to skin

ETHANOL**:**
Result: Slightly irritating to skin

ETHYL CHLORIDE**:**
Result: Mildly irritating to skin

TOLUENE**:**
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473

Result: negative

: Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE**:**
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER**:**
Assessment: May cause drowsiness or dizziness.

n-HEPTANE**:**
Assessment: May cause drowsiness or dizziness.

ETHANOL**:**
Assessment: May cause drowsiness or dizziness.

TOLUENE**:**
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE**:**
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
May be fatal if swallowed and enters airways.

n-HEPTANE**:**

May be fatal if swallowed and enters airways.

TOLUENE**:**
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
NTP	Known to be human carcinogen	
	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d

(Chronic toxicity)		Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.
ETHANOL**:**		
Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l Exposure time: 48 h Test Type: static test
ETHYL CHLORIDE**:**		
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Water flea (Daphnia magna)): 58 mg/l Exposure time: 48 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.2.
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.3.
TOLUENE**:**		
Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l Exposure time: 48 h Remarks: Mortality
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l End point: Growth inhibition Exposure time: 96 h NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l End point: Growth inhibition Exposure time: 7 d

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l Exposure time: 40 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability	:	Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability	:	Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**

Biodegradability	:	Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**

Partition coefficient: n-octanol/water	:	log Pow: 0.89

n-HEPTANE**:**

Partition coefficient: n-octanol/water	:	log Pow: 4.66

ETHANOL**:**

Partition coefficient: n-octanol/water	:	log Pow: -0.31

ETHYL CHLORIDE**:**

Partition coefficient: n-octanol/water	:	log Pow: 1.43

TOLUENE**:**

Bioaccumulation	:	Species: Ide, silver or golden orfe (Leuciscus idus) Bioconcentration factor (BCF): 94 Exposure time: 3 d Concentration: 0.05 mg/l Method: Not reported
Partition coefficient: n-octanol/water	:	log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1950	Aerosols	2.1	LIMITED QUANTITY

CFR_RAIL_C

UN	1950	Aerosols	2.1	LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1	LIMITED QUANTITY

TDG_ROAD_C

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

TDG_RAIL_C

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

TDG_INWT_C

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

MX_DG

UN	1950	AEROSOLES	2

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	340.921101

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard
Acute Health Hazard

SARA 313
Component(s)SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

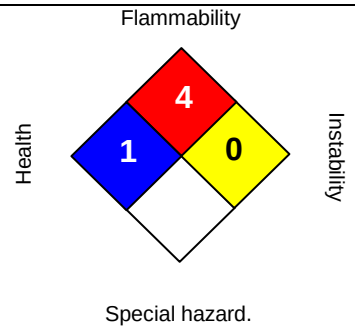
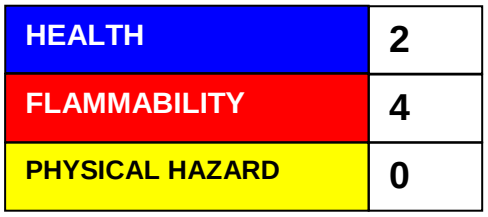
AICS : On the inventory, or in compliance with the inventory

NZIOC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2016

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : NAPA® MAC'S PREMIUM STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Acute toxicity (Oral)	:	Category 4
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.

Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Static Accumulator

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Acute 2; H401 Aquatic Chronic 2; H411	67.75
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	29.33
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	2.71
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.75
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.43
TOLUENE	108-88-3	Flam. Liq. 2; H225	0.18

		Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361 STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Rinse mouth with water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.

Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm 9,000 mg/m3	NIOSH/GUIDE
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE

		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Material	:	Nitrile rubber
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: impervious clothing Safety shoes Flame-resistant clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	aerosol
Colour	:	colourless
Odour	:	ether-like
Odour Threshold	:	No data available
pH	:	No data available
	:	No data available
Boiling point/boiling range	:	94.3 °F / 34.6 °C

(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : -49 °F / -45 °C
Calculated Flash Point

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 36.5 %(V)
Calculated Explosive Limit

Lower explosion limit : 1.05 %(V)
Calculated Explosive Limit

Vapour pressure : 717.2616 hPa (25 °C)
Calculated Vapor Pressure

Relative vapour density : No data available

Relative density : No data available

Density : 0.706 g/cm3 (15.56 °C)

Solubility(ies)
Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Thermal decomposition : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.

Conditions to avoid : Heat, flames and sparks.

excessive heat

Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide formaldehyde-like Hydrocarbons organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Eye Contact Ingestion

Acute toxicity
Harmful if swallowed.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**

Acute oral toxicity	:	LD 50 (Rat): > 8,000 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): 3400 ppm Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER**:**

Acute oral toxicity	:	LD50 (Rat): 1,200 - 1,700 mg/kg
Acute inhalation toxicity	:	LC 50 (Rat): 32,000 mg/l Exposure time: 4 h

n-HEPTANE**:**

Acute oral toxicity	:	LD 50 (Rat): Expected > 5,000 mg/kg Remarks: Information given is based on data obtained from similar substances.
Acute inhalation toxicity	:	LC 50 (Rat, male and female): > 29.29 mg/l Exposure time: 4 h Test atmosphere: vapour

Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l
Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE**:**
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE**:**
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to skin

ETHYL ETHER**:**
Result: Irritating to skin

n-HEPTANE**:**
Result: Irritating to skin

CARBON DIOXIDE**:**
Result: Not irritating to skin

ETHANOL**:**
Result: Slightly irritating to skin

ETHYL CHLORIDE**:**
Result: Mildly irritating to skin

TOLUENE**:**
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473

Result: negative

: Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE**:**
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER**:**
Assessment: May cause drowsiness or dizziness.

n-HEPTANE**:**
Assessment: May cause drowsiness or dizziness.

ETHANOL**:**
Assessment: May cause drowsiness or dizziness.

TOLUENE**:**
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE**:**
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
May be fatal if swallowed and enters airways.

n-HEPTANE**:**

May be fatal if swallowed and enters airways.

TOLUENE**:**
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans	
	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
NTP	Known to be human carcinogen	
	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d

(Chronic toxicity)		Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.
ETHANOL**:**		
Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l Exposure time: 48 h Test Type: static test
ETHYL CHLORIDE**:**		
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Water flea (Daphnia magna)): 58 mg/l Exposure time: 48 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.2.
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Method: Directive 67/548/EEC, Annex V, C.3.
TOLUENE**:**		
Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l Exposure time: 48 h Remarks: Mortality
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l End point: Growth inhibition Exposure time: 96 h NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l End point: Growth inhibition Exposure time: 7 d

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l Exposure time: 40 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability	:	Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability	:	Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**

Biodegradability	:	Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**

Partition coefficient: n-octanol/water	:	log Pow: 0.89

n-HEPTANE**:**

Partition coefficient: n-octanol/water	:	log Pow: 4.66

ETHANOL**:**

Partition coefficient: n-octanol/water	:	log Pow: -0.31

ETHYL CHLORIDE**:**

Partition coefficient: n-octanol/water	:	log Pow: 1.43

TOLUENE**:**

Bioaccumulation	:	Species: Ide, silver or golden orfe (Leuciscus idus) Bioconcentration factor (BCF): 94 Exposure time: 3 d Concentration: 0.05 mg/l Method: Not reported
Partition coefficient: n-octanol/water	:	log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1950	Aerosols	2	LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols	2.1	LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols	2.1	LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

TRANSPORT CANADA - INLAND WATERWAYS

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

TRANSPORT CANADA - RAIL

UN	1950	AEROSOLS	2.1	LIMITED QUANTITY

TRANSPORT CANADA - ROAD

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

U.S. DOT - RAIL

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

U.S. DOT - ROAD

UN	1950	AEROSOLES	2.1

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	340.921101

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Component(s)SARA 313

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	50.00 - 70.00 %
ETHYL ETHER	60-29-7	20.00 - 30.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

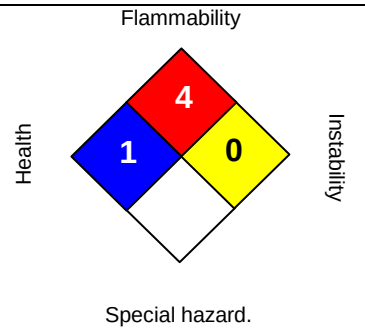
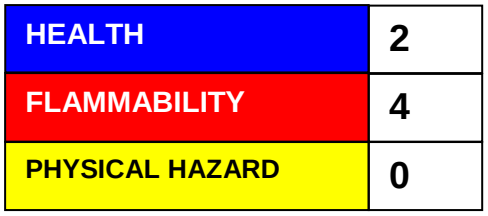
The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AICS	:	On the inventory, or in compliance with the inventory
NZIOC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2015

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

Safety Data Sheet

Issue Date: 08-Aug-2014 **Revision Date:** 28-May-2015 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name **NAPA Power Steering Fluid**

Other means of identification

SDS # NAP-001

Synonyms: N/A

Recommended use of the chemical and restrictions on use

Recommended Use Power Steering Fluid.

Details of the supplier of the safety data sheet

Supplier Address
Warren Oil Company
915 E. Jefferson Ave.
West Memphis, AR 72301

Emergency Telephone Number

Company Phone Number 1-870-400-3020
Emergency Telephone (24 hr) CHEMTREC 1-800-424-9300 (North America); 1-703-537-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Amber liquid **Physical State** Liquid at room temperature **Odor** Petroleum

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Petroleum distillates, hydrotreated heavy paraffinic	64742-54-7	90-100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.

Skin Contact No treatment is necessary under ordinary circumstances. Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention. WARNING: Oil injected into the skin from high pressure leaking hydraulic systems can cause severe damage. Most damage occurs during the first few hours. Seek medical attention immediately. Surgical removal of oil may be necessary.

Inhalation Remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Get medical attention.

Ingestion If swallowed, DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.

Most important symptoms and effects

Symptoms This product is irritating to the eyes. This product may cause irritation to the skin. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. Inhalation of oil mists or fumes can cause irritation of the nose, throat and upper respiratory tract. Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection. If this product is heated over 70 C (155 F) in the presence of water, hydrogen sulfide may be released. Hydrogen sulfide is irritating to the eyes and respiratory system. Continued overexposure may cause respiratory collapse, coma and death without necessarily any warning odor being sensed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical, foam, carbon dioxide, water fog.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Direct water spray or foam may cause frothing and spattering.

Hazardous Combustion Products Upon decomposition this product may yield oxides of boron, calcium, magnesium, phosphorous, zinc, sulfur including hydrogen sulfide and nitrogen as well as carbon monoxide, carbon dioxide and/or other low molecular weight hydrocarbons.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water to cool fire-exposed containers and to protect personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Surfaces may become slippery after spillage. Wear appropriate protective equipment and clothing during clean-up. Do not allow the spilled product to enter public drainage systems or open water courses.

Environmental Precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Stop the flow of material, if this is without risk.

Methods for Clean-Up Absorb with non-flammable suitable absorbent such as sand or earth. Scoop up used absorbent into drums or other appropriate container.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Avoid getting this material into contact with your eyes. Avoid prolonged or repeated skin contact with this material. Avoid the generation of oil mists. Wash thoroughly after handling. Use this product with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Do not store near heat, sparks, open flame or strong oxidizing agents. Do not store this material in open or unlabeled containers. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode.

Incompatible Materials This product may react with strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces. If product is heated above 70 C (155 F) in the presence of water, hydrogen sulfide vapors may be released. Ventilation should be sufficient to keep hydrogen sulfide levels below recommended exposure limits. Eye wash fountains are recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses. Wear chemical goggles or face shield if splash or mist occurs.

Skin and Body Protection Use impervious gloves for prolonged contact. Wear oil-impervious garments if contact is unavoidable.

Respiratory Protection If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.

General Hygiene Considerations Use good hygiene when handling petroleum product. Launder contaminated clothing before reuse. Excessive misting may cause slippery floors - wear appropriate footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid at room temperature		
Appearance	Amber liquid	**Odor**	Petroleum
Color	Amber	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not available	
Melting Point/Freezing Point	Not applicable	
Boiling Point/Boiling Range	Not available	
Flash Point	204 °C / 400 °F	Cleveland Open Cup
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-Not applicable	
Upper Flammability Limits	Not available	
Lower Flammability Limit	Not available	
Vapor Pressure	Not available	
Vapor Density	Not available	
Specific Gravity	0.86	at 15.6°C (60°F)
Water Solubility	Negligible	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not available	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not available	
Dynamic Viscosity	Not available	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid
Avoid formation of mists.

Incompatible Materials
This product may react with strong oxidizing agents.

Hazardous Decomposition Products
Decomposition of this product may yield oxides of boron, calcium, magnesium, nitrogen, phosphorus, sulfur including hydrogen sulfide and zinc as well as carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Component Information

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7		5000: 96 h Oncorhynchus mykiss mg/L LC50		1000: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Petroleum distillates, hydrotreated heavy paraffinic	Present	X		Present		Present	X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	0	1	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	1	1	0	Not determined

Issue Date: 08-Aug-2014
Revision Date: 28-May-2015
Revision Note: New format

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : NAPA® PREM PERF ATF TYPE FA TRANSMISSION OIL

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Ashland P.O. Box 2219 Columbus, OH 43216 United States of America EHS Customer Requests@ashland.com	1-800-ASHLAND (1-800-274-5263) **Regulatory Information Number** 1-800-325-3751 **Product Information** 614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS Label element

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
MINERAL OIL		Not a hazardous substance or mixture.	7.64

HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	Asp. Tox. 1; H304	7.38
METHACRYLATE COPOLYMER		Eye Irrit. 2A; H319	1.52

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	If breathed in, move person into fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	carbon dioxide and carbon monoxide Hydrocarbons
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
Other information	:	Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Electrical installations / working materials must comply with

the technological safety standards.

Materials to avoid : No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
MINERAL OIL		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS
		TWA	5 mg/m3 Mist.	TN OEL
		TWA	5 mg/m3 Inhalable fraction.	ACGIH
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS

Engineering measures : General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
Safety shoes
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	red
Odour	:	hydrocarbon-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 390 °F / > 199 °C Method: Cleveland open cup
Evaporation rate	:	> 1 Ethyl Ether
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6 %(V) Calculated Explosive Limit
Lower explosion limit	:	1 %(V) Calculated Explosive Limit
Vapour pressure	:	0.0133333 hPa (21.11 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	0.87 (15.6 °C)
Density	:	0.8750 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		

Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	excessive heat
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products		carbon dioxide and carbon monoxide Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
MINERAL OIL**:**
Result: Mildly irritating to skin

HYDROTREATED LIGHT PARAFFINIC DISTILLATE**:**
Result: Mildly irritating to skin

METHACRYLATE COPOLYMER**:**
Result: Not irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Unlikely to cause eye irritation or injury.

Components:
MINERAL OIL**:**
Result: Mildly irritating to eyes

HYDROTREATED LIGHT PARAFFINIC DISTILLATE**:**
Result: Mildly irritating to eyes

METHACRYLATE COPOLYMER**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Components:
HYDROTREATED LIGHT PARAFFINIC DISTILLATE**:**
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: No data available

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Component(s)SARA 313

Pennsylvania Right To Know

HEAVY PARAFFINIC DISTILLATE	64742-54-7	90.00 -

		100.00 %
MINERAL OIL	Not Assigned	5.00 - 10.00 %
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	5.00 - 10.00 %

New Jersey Right To Know

HEAVY PARAFFINIC DISTILLATE	64742-54-7	90.00 - 100.00 %
MINERAL OIL	Not Assigned	5.00 - 10.00 %
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	5.00 - 10.00 %
METHACRYLATE COPOLYMER	Not Assigned	1.00 - 5.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

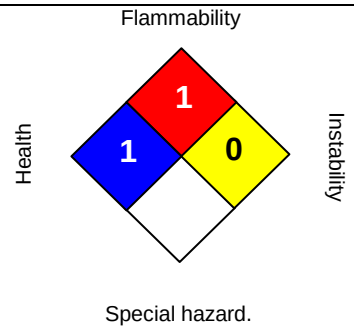
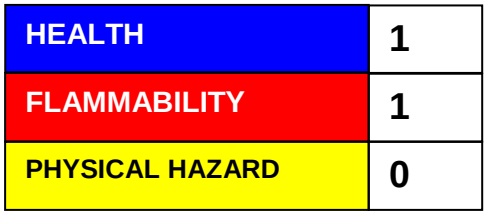
TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AUSTR	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECL	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 05/23/2015

NFPA:	HMIS III:
	

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.
H304 May be fatal if swallowed and enters airways.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.
NAPA UNITED	Part Nos. 35-012, 35-032, 35-101 35-105, 35-155	(815) 385-7000

ADDRESS (Number, Street, City, State, and ZIP Code)
1600 N. Industrial Drive, McHenry, Illinois 60050

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
Mixture of Alkylene Oxide Adducts	NAPA SUPER HEAVY DUTY BRAKE FLUID
CHEMICAL FAMILY: Polyglycol-based Hydraulic Fluid	FORMULA: N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		N/A	BASE METAL		N/A
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
N/A		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) minimum	450	SPECIFIC GRAVITY (H_2O=1)	1.03
VAPOR PRESSURE (mm Hg.) @ 20°C	Low	PERCENT, VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	Unknown	EVAPORATION RATE (_____ =1)	---
SOLUBILITY IN WATER	Infinite		
APPEARANCE AND ODOR	Light Yellow - Mild Odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
280° F (COC)	STP In Air	N/A	N/A

EXTINGUISHING MEDIA
Water fog, Alcohol Foam CO_2, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
Oral LD-50 (rats) greater than 2000 mg/kg

EFFECTS OF OVEREXPOSURE Eye Contact: Slight transient irritation - no corneal injury likely. Skin Contact: Single short exposure - no irritation. Repeated prolonged exposure (especially if confined against skin by clothing, etc.) - minor effects. Skin absorbtion: Not observed in toxic amounts. Inhalation: No TLV suggested.

EMERGENCY AND FIRST AID PROCEDURES Ingestion: No problem anticipated. If large amounts are swallowed, induce vomiting (if conscious and not convulsive). Call a physician. No specific antidote is known. Eye and Skin Contact: Flush with water. If illness occurs, see a physician. Inhalation: No problem is expected.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* Avoid oxidizing materials

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Use appropriate safety equipment. Do not allow spillage to contaminate ground water.

Soak up in absorbent material and shovel into drums.

WASTE DISPOSAL METHOD
Burn in accordance with local, state and federal laws.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* none normally needed.

VENTILATION			
	LOCAL EXHAUST		SPECIAL
	MECHANICAL *(General)*	X	OTHER

PROTECTIVE GLOVES	EYE PROTECTION
rubber, preferred for long exposure	Goggles

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Practice reasonable care and good personal hygiene.

OTHER PRECAUTIONS

NICKEL ALLOYS MATERIAL SAFETY DATA SHEET

MATERIAL IDENTIFICATION AND USE		SUPPLIER: RUSSEL METALS INC.
MATERIAL NAME: **NICKEL ALLOYS**	Russel Metals	ADDRESS: 1900 MINNESOTA COURT, MISSISSAUGA, ONTARIO. CANADA. L5N 3C9.
SYNONYMS: Includes all products, Bar, Plate and Tubular Products.		TEL: 905-819-7295 FAX: 905-819-7262
WHMIS CLASS: D2A, D2B		FORM #: MSDS-05-2011 DATE: NOVEMBER, 2011

1. PRODUCT INFORMATION

MATERIAL NAME: NICKEL ALLOYS

FORM #: MSDS-05-2011 **DATE:** NOVEMBER, 2011

MATERIAL USE: MANUFACTURE OF ARTICLES

2. HAZARDOUS INGREDIENTS

BASE METAL (ALL VALUES ARE EXPRESSED AS WEIGHT PERCENT AND ARE APPROXIMATES)

The exposure limit for nickel-containing metal fumes has been established at 1.5 mg/m^3 with ACGIH's TWA. The individual complex compounds within the fume may have lower exposure limits than the general fume.

COMPONENT	C.A.S. NUMBER	TLV (ACGIH - mg/m^3)	LD_{50}	% WEIGHT
NICKEL	**7440-02-0**	**1.5 (Metal, Inhalable) 0.2 (Insoluble, Inhalable) 0.1 (Soluble, Inhalable)**	**>9,000 mg/kg Oral-Rat**	**Up to 99.0**
IRON	7439-89-6	5.0 (as Iron oxide - Respirable)	30,000 mg/kg Oral-Rat	Up to 78.0
COPPER	7440-50-8	1.0 (Dust) 0.2 (Fume)	U	Up to 68.0
CHROMIUM	7440-47-3	0.5 (Metal & Cr+3) 0.05 (Cr +6 Soluble) 0.01 (Cr +6 Insoluble)	U	Up to 48.0
MOLYBDENUM	7439-98-7	10.0 (Insoluble, Inhalable) 3.0 (Insoluble, Respirable) 0,5 (Soluble, Respirable)	U	Up to 16.0
COBALT	7440-48-4	0.02 (Cobalt & Inorganic Compounds as Cobalt)	6,171 mg/kg Oral-Rat	Up to 12.0
TUNGSTEN	7440-33-7	5.0 (Metal & Insoluble Compounds) 1.0 (Soluble compounds)	U	Up to 5.0
TITANIUM	7440-32-6	Not Established (10.0 as Titanium Dioxide)	U	Up to 3.0
ALUMINUM	7429-90-5	1.0 (Metal & Insoluble Compounds - Respirable)	U	Up to 3.0
MANGANESE	7439-96-5	0.2 (As Inorganic Manganese)	9,000 mg/kg Oral-Rat	Up to 2.0
VANADIUM	7440-62-2	0.05 (Inhalable Dust or Fume as V_2O_5)	130 mg/kg Oral-Rat	Up to 0.15
SILICON	7440-21-3	10.0 (Non-fibrous Dust, Inhalable) 3.0 (Non-Fibrous Dust, Respirable)	3,160 mg/kg Oral-Rat	Up to 2.0

NOTES:
- Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH - 2011) are 8-hour Time Weighted Average concentrations unless otherwise noted.
- Ingredients listed as required by the WHMIS Ingredient Disclosure List of the Hazardous Products Act (Canada).
- For exact composition, refer to analysis or specifications.

3. HAZARDS IDENTIFICATION

GENERAL: Nickel alloys in their usual solid form and under normal conditions do not present an inhalation, ingestion, or contact health hazard or fire or explosion hazard. Operations such as welding, brazing, burning, grinding, cutting, heat treating, machining or similar operations may generate dusts, fumes machine turnings that may create a health or fire or explosion hazard.

ROUTES OF ENTRY: None in its natural solid state.
High concentrations of dusts or fumes may cause irritation to the eyes. Inhalation of metal fumes or dusts generated during welding, burning, grinding or machining may cause irritations of the respiratory tract. Flu-like symptoms such as fever and chills may occur a few hours after excessive exposure. Dusts or fumes can cause irritation to the skin with itching, dermatitis may occur.

TARGET ORGANS: Respiratory system, kidney, liver, central nervous system, eyes and skin.

EFFECTS OF ACUTE EXPOSURE TO MATERIAL: COPPER & MANGANESE: Inhalation overexposure to copper or manganese may cause metal fume fever characterized by fever and chills (i.e. flu-like symptoms) which appear 4-6 hours after exposure with no long-term effects.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL: NICKEL: IARC lists metallic nickel under its Group 2B category - "possibly carcinogenic to humans". Nickel may cause skin sensitivity.
CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category - "confirmed human carcinogens" and metallic chromium under its Group 3 category - "not classifiable as to their carcinogenicity to humans". Chromium metal is classified as carcinogenic by NTP.

IRON: Inhalation overexposures may cause a benign pneumoconiosis (siderosis) with few or no symptoms.
MANGANESE: Existing studies are inadequate to assess its carcinogenicity. Susceptible to Parkinson's disease, metal fume fever and kidney damage.
COBALT: Cobalt dust may result in an asthma-like condition (cough, shortness of breath). IARC lists metallic cobalt under its Group 2B category - "possibly carcinogenic to humans".

NOTES:
- International Agency for Research on Cancer (IARC) - Summaries & Evaluations (2008).
- 3rd Annual Report on Carcinogens as prepared by the National Toxicology Program (NTP).

4. FIRST AID MEASURES

EYES: FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, HOLDING EYE LIDS OPEN. SEEK MEDICAL ATTENTION IF EYE IRRITATION PERSISTS.

SKIN: MAINTAIN GOOD PERSONAL HYGIENE. WASH AFFECTED AREA WITH MILD SOAP AND WATER. SEEK MEDICAL ATTENTION IF SKIN IRRITATION PERSISTS.

INHALATION: REMOVE TO FRESH AIR. CHECK FOR CLEAR AIRWAY, BREATHING AND PRESENCE OF PULSE. IF NECESSARY ADMINISTER CPR. CONSULT A PHYSICIAN IMMEDIATELY.

INGESTION: RARE IN INDUSTRY. DUST MAY IRRITATE MOUTH AND GASTROINTESTINAL TRACT. IF INGESTED, SEEK MEDICAL ATTENTION PROMPTLY.

5. FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION: Non-flammable. Will not support combustion.

MEANS OF EXTINCTION: Not applicable for solid product. Use extinguishers appropriate for surrounding materials.

FLASH POINT (°C):	N/A	**AUTO-IGNITION TEMP (°C):**	N/A
UPPER FLAMMABLE LIMIT % BY VOL.:	N/A	**LOWER FLAMMABLE LIMIT % BY VOL.:**	N/A
SENSITIVITY TO STATIC DISCHARGE:	N/A	**EXPLOSION DATA (SENSITIVITY TO IMPACT):**	No

HAZARDOUS COMBUSTION PRODUCTS: At temperatures above the melting point, fumes containing metal oxides and other alloying elements may be liberated.

UNUSUAL FIRE HAZARDS: Finely divided particles or dusts such as those produced during grinding may present an explosion hazard, and should be treated as a Class D combustible metal fire – use a use Class D fire extinguishers (dry powder or sand) for fires involving powders or dusts.

SPECIAL FIRE FIGHTING: Do not use water on molten metal.

6. ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURES: Not applicable to nickel alloys in solid state.
For spills involving fine dusts, remove by vacuuming or wet sweeping methods to prevent spreading of dust. Do not use compressed air to clean spills of dusts. Avoid inhalation of dusts. Collect spilled materials into suitable labelled containers for disposal.

7. HANDLING AND STORAGE

HANDLING: Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Practice good housekeeping. Avoid breathing metal fumes and/or dust.

STORAGE: Store away from acids and incompatible materials.

8. EXPOSURE CONTROLS

ENGINEERING CONTROLS:
(e.g. ventilation, enclosures, specify) General or local exhaust during welding, grinding or other dust generating operations.

PERSONAL PROTECTIVE EQUIPMENT: Dependent upon process being performed on material each operation must be addressed for suitable equipment.

GLOVES (Specify):	Wear gloves as required.	**EYES** (Specify):	Safety glasses or goggles as required.
CLOTHING (Specify):	N/A	**FOOTWEAR** (Specify):	N/A

RESPIRATOR (Specify): If concentrations exceed established limits (up to 10X TLV) use NIOSH/MSHA approved particulate respirators (dust & fume or high efficiency dust & fume cartridge) when grinding or welding.

OTHER (Specify): N/A

9. CHEMICAL AND PHYSICAL PROPERTIES

PHYSICAL STATE:	Solid	**APPEARANCE:**	Silver Grey, metallic	**ODOUR:**	Not Applicable
BOILING POINT:	Not Applicable	**VAPOUR PRESSURE:**	Not Applicable	**VAPOUR DENSITY:**	Not Applicable
MELTING POINT:	Not tested for alloy 1530°C (2650ºF) for Ni	**DENSITY:**	7-9	**pH:**	Not Applicable
EVAPORATION RATE:	Not Applicable	**SOLUBILITY:**	Not Applicable		

COEFFICIENT WATER/OIL DISTRIBUTION: Not Applicable

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable – Nickel alloys are stable under normal storage and handling conditions.

HAZARDOUS POLYMERIZATION: Hazardous polymerization cannot occur.

INCOMPATIBILITY TO OTHER SUBSTANCES: Yes. Oxidizers and acids.

CONDITIONS OF REACTIVITY: Contact with oxidizers and/or mineral acids will release flammable hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS: High temperatures can produce toxic metallic and/or metal oxide fumes.

11. TOXICOLOGICAL INFORMATION

IRRITANCY OF MATERIAL: See Section 3.

SENSITIZATION OF MATERIAL; Nickel may cause dermatitis ("nickel-itch").

LD_{50} (of Material): Not established

LC_{50} (of Material): Not established

MUTAGENCITY OF MATERIAL: N/A

REPRODUCTIVE EFFECTS: N/A

TERATOGENICITY OF MATERIAL: N/A

CARCINOGENICITY OF MATERIAL: NICKEL: IARC lists metallic nickel under its Group 2B category - "possibly carcinogenic to humans".
CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category - "confirmed human carcinogens" and metallic chromium under its Group 3 category - "not classifiable as to their carcinogenicity to humans".
COBALT: IARC lists metallic cobalt under its Group 2B category - "possibly carcinogenic to humans".

SYNERGISTIC MATERIALS: N/A

NOTE: Nickel containing welding fume has an exposure limit of 1.5 mg/m³ (ACGIH-TLV's 2011). Welding fume may also contain contaminants from fluxes or welding consumables. Prolonged skin contact may cause reddening and drying of skin or dermatitis in sensitive individuals due to nickel and/or chromium content in product.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No data available for the material as a whole. However, individual components of the material have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife.

ENVIRONMENTAL FATE: No data available.

ENVIRONMENTAL DEGRADATION: In fresh and salt water, nickel alloys will eventually form metal oxides and precipitate in sediments.

13. DISPOSAL INFORMATION

WASTE DISPOSAL: Nickel scrap or solid waste should be recycled whenever possible.
Product dusts may be classed as hazardous wastes, depending on properties of the components (i.e. toxicity, flammability, etc.) and should be handled, disposed, processed, or recycled in accordance with federal, provincial and local regulations

GENERAL INFORMATION: Dispose of in accordance with applicable federal, provincial/state or local regulations.

14. TRANSPORTATION INFORMATION

GENERAL SHIPPING INFORMATION: Material not regulated for shipping.

SHIPPING NAME AND DESCRIPTION: N/A
UN NUMBER: N/A
CLASS: N/A
PACKING GROUP/RISK GROUP: N/A

TRANSPORT REGULATIONS:
Canadian Transportation of Dangerous Goods Regulations (TDG) March 2011.
US Department of Transport (DOT) Hazardous Materials shipping information (Title 49 - Transportation March 2011).

15. REGULATORY INFORMATION

REGULATORY INFORMATION: *The following listing of regulations relating to a Russel Metals Inc. product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

ADDITIONAL CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Class D2A/D2B: Materials Causing Other Toxic Effects.
DOMESTIC SUBSTANCES LIST: The components of this material are on the federal DSL Inventory.
OTHER CANADIAN REGULATIONS: N/A

ADDITIONAL U.S. REGULATIONS:
SARA: The components of this material are subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA – Oct. 2006), as follows:

NICKEL ALLOYS MATERIAL SAFETY DATA SHEET

CHEMICAL NAME	SARA 302 (40 CFR 355, Appendix A)	SARA 304 (40 CFR Table 302.4)	SARA 313 (40 CFR 372.65)	CERCLA Reportable Quantities
Nickel	No	No	Yes	100 lbs
Chromium	No	No	Yes	5,000 lbs
Cobalt	No	No	Yes	None listed
Copper	No	No	Yes	5,000 lbs
Manganese	No	No	Yes	None listed
Vanadium	No	No	No	None listed

SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this material. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb. (4,540 kg) therefore applies, per 40 CFR 370.20.

TSCA INVENTORY STATUS: The components of this material are listed on the Toxic Substances Control Act Inventory.

CERCLA REPORTABLE QUANTITY (RQ): RQ's for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are: Chromium = 5,000 lb. (2,270 kg); Copper = 5,000 lb. (2,270 kg); Nickel = 100 lb. (45 kg).

CALIFORNIA (PROPOSITION 65): The Nickel component of this material is known in the State of California to cause cancer.
The Chromium (VI) component of this material is known in the State of California to cause cancer.
The Cobalt (powder) component of this material is known in the State of California to cause cancer

OTHER U.S. FEDERAL REGULATIONS: None.

ADDITIONAL EUROPEAN UNION REGULATIONS:

RoHS & WEEE: This MSDS follows the European Union Directive "Restriction on the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment" (2002/95/EC) and the "Waste Electrical and Electronic Equipment (WEEE)" Directive (2002/96/EC).

Chromium VI (Cr +6): The hexavalent oxidation state of chromium does not normally exist as part of a metal or alloy.

16. OTHER INFORMATION

HAZARD LABEL RATING SYSTEMS:

NFPA CODE: H=0 F=0 R=0
HMIS CODE: H=1* F=0 R=0 PPE: See Section 8
* Denotes possible chronic hazard if airborne dusts or fumes are generated.

PREPARED BY: RUSSEL METALS INC. AND ENVIROTEST INC. **DATE:** NOVEMBER, 2011

TELEPHONE: 905-819-7295 **NOTE:** CONTACT SUPPLIER FOR ADDITIONAL PRODUCT INFORMATION

DISCLAIMER: THE INFORMATION CONTAINED HEREIN BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF.

MATERIAL SAFETY DATA SHEET

MSDS Number: 1401C

Section 1 PRODUCT AND COMPANY IDENTIFICATION

Trade Name:	OATEY CANADIAN PURPLE PRIMER/CLEANER
Product Nos.:	31489, 31490, 31491, 31492, 31585, 31586, 31587, 31588, 31589
Product Use:	Primer/Cleaner for cementing PVC and CPVC pipe
Formula:	See Section 3
Synonyms:	Primer, Cleaner
Firm Name & Address:	Oatey Company 4700 West 160th Street, Cleveland, Ohio 44135 www.oatey.com
Firm Phone No:	(216) 267-7100
Emergency Phone Nos.:	For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.
Prepared by:	Technical Department
Preparation Date:	09/11/2012

Section 2 HAZARDS IDENTIFICATION

Emergency Overview:

Purple liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	%wt/wt :	CAS NUMBER:	ACGIH TLV TWA:	OSHA PEL TWA	OTHER:
Tetrahydrofuran	1 - 5%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Methyl Ethyl Ketone	10 - 20%	78-93-3	200 ppm 300 ppm	200 ppm	None
Acetone	60 -100%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Cyclohexanone	3 - 7%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None

OSHA Hazard Classification: Flammable, irritant, organ effects

Section 4 FIRST AID MEASURES

Skin:	Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.
Eyes:	If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.
Inhalation:	If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.
Ingestion:	**DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by

calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

Section 5 FIRE FIGHTING MEASURES

Flashpoint / Method:	14 - 23 Degrees F. (-10 to -5 Degrees C) / CCCFP
Flammability:	LEL = 1.8 % Volume, UEL = 11.8 % Volume
Extinguishing Media:	Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.
Special Fire Fighting Procedure:	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored
Unusual Fire And Explosion Hazards:	Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Section 6 ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

Section 7 HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.
Storage:	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.
Other:	"Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.
Respiratory Protection:	For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.
Skin Protection:	Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.
Eye Protection:	Safety glasses with side shields or safety goggles.

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	133 Degrees F / 56 Degrees C
Melting Point:	Not applicable
Vapor Pressure:	145 mmHg @ 20 Degrees C
Vapor Density:	(Air = 1) 2.5
Volatile Components:	99.96%
Solubility In Water:	Negligible
pH:	Not applicable
Specific Gravity:	0.81 +/- 0.02 @ 20 Degrees C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0
Appearance:	Purple Liquid
Odor:	Ether-Like
Will Dissolve In:	Tetrahydrofuran
Material Is:	Liquid

Section 10 STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	Avoid heat, sparks, flames and other sources of ignition.
Hazardous Decomposition Products:	Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.
Incompatibility/ Materials To Avoid:	Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.
Hazardous Polymerization:	Will not occur.

Section 11 TOXICOLOGICAL INFORMATION

Inhalation:	Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.
Skin:	May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.
Eye:	Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.
Ingestion:	Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.
Chronic Toxicity:	Prolonged or repeated overexposure cause dermatitis and damage to the kidney, liver, lungs and central nervous system.

Toxicity Data:

Acetone:	Oral rat LD50: 5,800 mg/kg Inhalation rat LC50: 50,100 mg/m3/8 hours
Cyclohexanone:	Oral rat LD50: 1,620 mg/kg Inhalation rat LC50: 8,000 ppm/4 hours Skin rabbit LD50: 1 mL/kg
Tetrahydrofuran:	Oral rat LD50: 1,650 mg/kg Inhalation rat LC50: 21,000 ppm/3 hours
Methyl Ethyl Ketone:	Oral rat LD50: 2,737 mg/kg Inhalation rat LC50: 23,500 mg/m3/8 hours Skin rabbit LD50: 6,480 mg/kg

Sensitization:	None of the components are known to cause sensitization.
Carcinogenicity:	None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and

	may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.
Mutagenicity:	Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.
Reproductive Toxicity:	Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.
Medical Conditions Aggravated By Exposure:	Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

Section 12 ECOLOGICAL INFORMATION

This product is not expected to be toxic to aquatic organisms.
Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/1.
Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.
Acetone: 96 hour LC50 for fish is greater than 100 mg/L.
Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information:	This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.
VOC Level:	Maximum 550 g/L per SCAQMD Test Method 316A.

Section 13 DISPOSAL CONSIDERATIONS

Waste Disposal:	Dispose in accordance with current local, state and federal regulations.
RCRA Hazardous Waste Number:	U002, U057, U159, U213
EPA Hazardous Waste ID Number:	D001, D035, F003, F0005
EPA Hazard Waste Number:	Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)

Section 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
UN/NA Number:	None	UN1993
Proper Shipping Name:	Consumer Commodity	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	ORM-D	3
Packing Group:	None	PGII
Hazard Labels:	None	Flammable Liquid
IMDG		
UN Number:	UN1993	UN1993
Proper Shipping Name:	Flammable Liquid, NOS (Limited Quantity)	Flammable Liquid, NOS (Methyl Ethyl Ketone, Acetone)
Hazard Class:	3	3
Packing Group:	II	II
Label:	None (Limited Quantities are expected from labeling)	Class 3 (Flammable Liquid)
Flashpoint (deg C)	-10 to -5 Degrees C	-10 to -5 Degrees C

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Section 15 REGULATORY INFORMATION

Hazard Category for Section 311/312:	Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals:	This product does not contain chemicals subject to SARA Title III Section 313 Reporting requirements.
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Acetone (100% maximum) of 5,000 lbs, is 5,000 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65:	This product does not contain any chemicals subject to California Proposition 65 regulations.
TSCA Inventory	All of the components of this product are listed on the TSCA inventory.
Canadian WHIMS Classification:	Class B, Division 2; Class D, Division 2, Subdivision B; Class D, Division 2, Subdivision A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Section 16 OTHER INFORMATION

NFPA and HMIS:	
NFPA Hazard Signal:	Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal:	Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

Template: tmpl-cn-e1

SAFETY DATA SHEET

1. Identification

Product identifier **Oatey PVC Heavy Duty Clear or Gray Cement**

Other means of identification

SDS number 1102E

Synonyms Part Numbers: Clear 30850, 30863, 30876(TV), 30882, 31008(TV), 31011, 31950, 31951, 31952, 31953 Gray 30349, 31093, 31094, 31095, 31105, 31118, 31978, 31979, 31980, 31981, 32050, 32051, 32052, 32210, 32211

Recommended use Joining PVC Pipes

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.
Address 4700 West 160th St.
Cleveland, OH 44135
Telephone 216-267-7100
E-mail info@oatey.com
Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid 1-877-740-5015
Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information

Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-60
2-Propanone	67-64-1	10-30
Cyclohexanone	108-94-1	10-30
Polyvinyl chloride	9002-86-2	10-30
Methyl ethyl ketone	78-93-3	5-10
Colloidal silicon dioxide	112945-52-5	1-5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

Most important symptoms/effects, acute and delayed

Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
Colloidal silicon dioxide (CAS 112945-52-5)	TWA	0.8 mg/m3	Unspecified.
		20 mppcf	Unspecified.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Polyvinyl chloride (CAS 9002-86-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
2-Propanone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3	
		50 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3	
		200 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3	
		200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Colloidal silicon dioxide (CAS 112945-52-5)	TWA	0.8 mg/m3
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2-Propanone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	TWA	1 mg/m3	Respirable fraction.

U.S. - NIOSH

Components	Type	Value	Form
Colloidal silicon dioxide (CAS 112945-52-5)	REL	6 mg/m3	Unspecified.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2-Propanone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Colloidal silicon dioxide (CAS 112945-52-5)	TWA	6 mg/m3
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Propanone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Wash hands after handling and before eating.

9. Physical and chemical properties

Appearance Opaque.or Translucent.

Physical state Liquid.

Form Liquid.

Color Gray or Clear.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 151 °F (66.11 °C)

Flash point 14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate 5.5 - 8

Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.88 - 0.92
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1200 - 2500 cP
Other information	
Bulk density	7.5 lb/gal
VOC (Weight %)	481 g/l SQACMD Method 304

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours

Components	Species	Test Results
Oral		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer. In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure. This product contains polyvinyl chloride (PVC) that is not a fabricated product, and is therefore, defined and regulated as a toxic and hazardous substance under 29 C.F.R. § 1910.1017 due to the presumed presence of residual vinyl chloride monomer. The concentrations of residual vinyl chloride calculated to be contained in this product are well below the threshold for classification in accordance with 29 C.F.R. § 1910.1200.

IARC Monographs. Overall Evaluation of Carcinogenicity

Colloidal silicon dioxide (CAS 112945-52-5)	3 Not classifiable as to carcinogenicity to humans.
Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Polyvinyl chloride (CAS 9002-86-2)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Respiratory tract irritation. Narcotic effects.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

2-Propanone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	T11, TP1, TP8, TP27
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	ADHESIVES
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer Central nervous system Liver Blood Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Propanone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

2-Propanone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

2-Propanone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

2-Propanone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations

US. Massachusetts RTK - Substance List

2-Propanone (CAS 67-64-1)
Colloidal silicon dioxide (CAS 112945-52-5)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. New Jersey Worker and Community Right-to-Know Act

2-Propanone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

Polyvinyl chloride (CAS 9002-86-2)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Propanone (CAS 67-64-1)
Colloidal silicon dioxide (CAS 112945-52-5)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

2-Propanone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. This product contains trace amounts of chemicals known to the state of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California “No significant Risk Level” (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure levels to these chemicals.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-August-2014
Revision date	15-December-2014
Version #	02
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.

Safety Data Sheet

according to Hazard Communication Standard; 29 CFR 1910.1200

OFF!® ACTIVE® INSECT REPELLENT I

Version *1*.1

Print Date 03/04/2015

Revision Date 02/23/2015

SDS Number 350000004806
GEN_SOF Number 38268

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name : **OFF!® ACTIVE® INSECT REPELLENT I**

Recommended use : Insect Repellent

Manufacturer, importer, supplier : S.C. Johnson & Son, Inc.
1525 Howe Street
Racine WI 53403-2236

Telephone : +18005585252

Emergency telephone number : 24 Hour Medical Emergency Phone: (866)231-5406
24 Hour International Emergency Phone: (703)527-3887
24 Hour Transport Emergency Phone: (800)424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification

Hazard classification	Hazard category	Hazards identification
Aerosol	Category 1	Extremely flammable aerosol.
Eye irritation	Category 2B	Causes eye irritation.
Gases under pressure	Liquefied gas	Contains gas under pressure; may explode if heated.

Labelling
Hazard symbols
Flame
Gas cylinder

Signal word
Danger

Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes eye irritation.

Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.

OFF!® ACTIVE® INSECT REPELLENT I

Version *1*.1 Print Date 03/04/2015

Revision Date 02/23/2015 SDS Number 350000004806
GEN_SOF Number 38268

Read label before use.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Protect from sunlight. Store in a well-ventilated place.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Ethyl alcohol	64-17-5	60.00 - 100.00
N,N-Diethyl-m-toluamide	134-62-3	10.00 - 30.00
Butane	106-97-8	1.00 - 5.00
Propane	74-98-6	1.00 - 5.00
Isobutane	75-28-5	1.00 - 5.00

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Skin contact : If you suspect a reaction to this product, discontinue use and remove contaminated clothing.

Inhalation : No special requirements.

Ingestion : No special requirements

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5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Aerosol Product - Containers may rocket or explode in heat of fire. Do not allow run-off from fire fighting to enter drains or water courses.

Further information : Fight fire from maximum distance or protected area. Cool and use caution when approaching or handling fire-exposed containers. Wear full protective clothing and positive pressure self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

NFPA Classification : NFPA Level 2 Aerosol

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Remove all sources of ignition.
Wear personal protective equipment.
Wash thoroughly after handling.

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Use appropriate containment to avoid environmental contamination.
Outside of normal use, avoid release to the environment.

Methods and materials for containment and cleaning up : If damage occurs to aerosol can:
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Use only non-sparking equipment.
Dike large spills.
Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

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Precautions for safe handling	:	Avoid contact with eyes and lips. For personal protection see section 8. Use only as directed. KEEP OUT OF REACH OF CHILDREN AND PETS. Pressurized container. Do not pierce or burn, even after use. Wash thoroughly after handling.
Advice on protection against fire and explosion	:	Keep away from sources of ignition - No smoking. Do not spray on an open flame or other ignition source.

Storage

Requirements for storage areas and containers	:	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep away from food, drink and animal feedingstuffs. Keep in a dry, cool and well-ventilated place.
Other data	:	Stable under recommended storage conditions.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Non-standard units	Basis
Ethyl alcohol	64-17-5	1,900 mg/m3	1,000 ppm	-	OSHA TWA
Ethyl alcohol	64-17-5	-	1,000 ppm	-	ACGIH STEL
Butane	106-97-8	-	1,000 ppm	-	ACGIH STEL
Propane	74-98-6	-	1,000 ppm	-	ACGIH TWA
Propane	74-98-6	1,800 mg/m3	1,000 ppm	-	OSHA TWA
Isobutane	75-28-5	-	1,000 ppm	-	ACGIH STEL

Personal protective equipment

Respiratory protection : Do not spray in enclosed areas.

Hand protection : No special requirements.

Eye protection : No special requirements.

Skin and body protection : No special requirements.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : aerosol

Color : clear

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Odor	:	pleasant
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	-7 °C 19.4 °F Propellant
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Sustains combustion
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Relative density	:	0.781 g/cm3 at 21 °C
Solubility(ies)	:	dispersible
Partition coefficient: n-octanol/water	:	No data available

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Auto-ignition temperature	:	No data available
Decomposition temperature	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available
Volatile Organic Compounds Total VOC (wt. %)*	:	84.4 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified

:

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Emergency Overview	:	Danger
Acute oral toxicity	:	LD50 3,735 mg/kg

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Acute inhalation toxicity : GHS LC50 (dust and mist)
> 2.18 mg/l

Acute dermal toxicity : LD50
> 2,000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	-
Skin corrosion/irritation	No classification proposed	-
Eye irritation	Category 2B	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : Do not apply to cuts or irritated skin.

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is

expected when used according to label directions.

Toxicity to fish

Components	End point	Species	Value	Exposure time
Ethyl alcohol	flow-through test LC50	Pimephales promelas (fathead minnow)	14,200 mg/l	96 h
N,N-Diethyl-m-toluamide	static test LC50	Oncorhynchus mykiss (rainbow trout)	71.25 mg/l	96 h
Butane	No data available			
Propane	LC50	Fish	27.98 mg/l	96 h
Isobutane	LC50	Fish	27.98 mg/l	96 h

Toxicity to aquatic invertebrates

Components	End point	Species	Value	Exposure time
Ethyl alcohol	static test EC50	Daphnia magna (Water flea)	2 mg/l	48 h
	NOEC	Daphnia magna	9.6 mg/l	9 d

N,N-Diethyl-m-toluamide	No data available			
Butane	No data available			
Propane	LC50	Daphnid	14.22 mg/l	48 h
Isobutane	LC50	Daphnid	16.33 mg/l	48 h

Toxicity to aquatic plants

Components	End point	Species	Value	Exposure time
Ethyl alcohol	Static EC50	Chlorella vulgaris (Fresh water algae)	275 mg/l	72 h
N,N-Diethyl-m-toluamide	No data available			
Butane	No data available			
Propane	No data available			
Isobutane	EC50	Green algea	8.57 mg/l	96 h

Persistence and degradability

Component	Biodegradation	Exposure time	Summary
Ethyl alcohol	97 %	28 d	Readily biodegradable
N,N-Diethyl-m-toluamide	No data available		
Butane	100 %	385.5 h	Readily biodegradable
Propane	70 %	< 10 d	Readily biodegradable
Isobutane	70 %	< 10 d	Readily biodegradable

Bioaccumulative potential

Component	Bioconcentration factor (BCF)	Partition Coefficient n-Octanol/water (log)
Ethyl alcohol	3.2 estimated	-0.35 Measured
N,N-Diethyl-m-toluamide	No data available	No data available
Butane	No data available	2.89
Propane	No data available	2.36
Isobutane	1.57 - 1.97	2.8

Mobility

Component	End point	Value
Ethyl alcohol	No data available	
N,N-Diethyl-m-toluamide	No data available	
Butane	No data available	
Propane	No data available	
Isobutane	No data available	

PBT and vPvB assessment

Component	Results
Ethyl alcohol	Not fulfilling PBT and vPvB criteria
N,N-Diethyl-m-toluamide	Not fulfilling PBT and vPvB criteria
Butane	Not fulfilling PBT and vPvB criteria
Propane	Not fulfilling PBT and vPvB criteria
Isobutane	Not fulfilling PBT and vPvB criteria

Other adverse effects : None known.

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13. DISPOSAL CONSIDERATIONS

PESTICIDAL WASTE:
For disposal information, please read and follow Disposal instructions on the pesticide label.
Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

	Land transport	**Sea transport**	**Air transport**
UN number	1950	1950	1950
UN proper shipping name	AEROSOLS, Flammable, 2.1	AEROSOLS, Flammable, 2.1	AEROSOLS, Flammable, 2.1
Transport hazard class(es)	2.1	2	2.1
Packing group	-	-	-
Environmental hazards	-	-	-
Special precautions for user	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.

15. REGULATORY INFORMATION

FIFRA Labeling

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.
Following is the hazard information as required on the pesticide label:

WARNING:

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Causes substantial but temporary eye injury.
Harmful if swallowed.
Use of this product may cause skin reactions in rare cases.
Flammable.
Contents under pressure.
Exposure to temperatures above 120° F may cause bursting.

Notification status : All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Notification status : All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

California Prop. 65 : This product is not subject to the reporting requirements under California's Proposition 65.

Registration # / Agency
4822-380/US/EPA

16. OTHER INFORMATION

HMIS Ratings

Health	2
Flammability	4
Reactivity	0

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NFPA Ratings

Health	2
Fire	4
Reactivity	0
Special	-

This information is being provided in accordance with the Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.1200). The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

MATERIAL SAFETY DATA SHEET

B55216000
03 00

DATE OF PREPARATION
May 3, 2011

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
B55216000
PRODUCT NAME
OMNI-PAK® Master Blend™ Fill-One
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
KRYLON PRODUCTS GROUP
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 251-2486 www.kpg-industrial.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
25	**74-98-6**	**Propane**		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
65	**67-64-1**	**Acetone**		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
9	**78-93-3**	**Methyl Ethyl Ketone**		
		ACGIH TLV	200 PPM	70 mm
		ACGIH TLV	300 PPM STEL	
		OSHA PEL	200 PPM	
		OSHA PEL	300 PPM STEL	
1	**763-69-9**	**Ethyl 3-Ethoxypropionate**		
		ACGIH TLV	Not Available	1.11 mm
		OSHA PEL	Not Available	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2
Flammability	4
Reactivity	0

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	EXTINGUISHING MEDIA
Propellant < 0 °F	1.0	12.8	Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	5.80 lb/gal	694 g/l
SPECIFIC GRAVITY	0.70	
BOILING POINT	<0 - 342 °F	<-18 - 172 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	100%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 35.47% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	**Propane**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
67-64-1	**Acetone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
78-93-3	**Methyl Ethyl Ketone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		2740 mg/kg
763-69-9	**Ethyl 3-Ethoxypropionate**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5000 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)
May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)
Canada (TDG)
May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)
IMO
May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U, ADR (D)
IATA/ICAO
UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.
CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Safety Data Sheet

Original LUBE-MATIC Liquid

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1 Product Identifier

Trade Name Original LUBE-MATIC Liquid
Product Number 007040, 007050

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Welding Process Aid

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Weld-Aid Products
14650 Dequindre
Detroit , Michigan
Information Phone Number: +1 (313) 883-6977
+1 (313) 883-4930
E-mail info@weldaid.com

1.4 Emergency Telephone Number

Emergency Spill Information +1 (800) 255-3924

SDS Date of Preparation: October 6, 2014

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

CLP/GHS Classification (1272/2008):

Physical:	Health:	Environmental
None	Eye Irritation Category 2A (H319) Skin Irritation Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H335, H336) Carcinogen Category 1B (H350)	None

EU Classification (67/548/EEC): Xn R40 (Carcinogen Category 2)

2.2 Label Elements

WARNING! Contains methylene chloride

Hazard Phrases

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.

Precautionary Phrases

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing mist, vapors and spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

	easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical attention.
P362	Take off contaminated clothing and wash before reuse.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical attention.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical Name	CAS# /	EINECS#	EU Classification (67/548/EEC)	GHS Classification Regulation (EC) No 1272/2008	%
Methylene Chloride (Dichloromethane)	75-09-2	200-838-9	Xn (Carc Cat 2) R40	Eye Irritation Category 2A (H319), Skin Irritation Category 2 (H315), Specific Target Organ Toxicity Single Exposure Category 3 (H335, H336), Carcinogen Category 1B (H350)	>90
Alkyl-Aryl Siloxane Copolymer	Mixture	Mixture	Not classified as dangerous	Not classified as hazardous	<10

See Section 16 for further information on EU and GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

Eyes: Flush eyes immediately with water for at several minutes, holding the eyelids apart. If irritation persists, call a physician.

Skin: Remove contaminated clothing and shoes. Wash exposed area thoroughly with soap and water. Wash contaminated clothing before reuse. Get medical attention if irritation persists. Risk of exposure may occur from contaminated clothing or unwashed skin by skin absorption or off-gassing vapors.

Inhalation: Remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. If symptom persists, seek prompt medical attention**.**

Ingestion: If conscious, rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Notes to Physicians: Adrenaline should never be given to a person overexposed to methylene chloride. The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans.

4.2 Most Important symptoms and effects, both acute and delayed: Causes eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, drowsiness, nausea and unconsciousness. Ingestion may cause mucous membrane and gastrointestinal irritation, nausea, vomiting or diarrhea. Overexposure may cause heart, liver, kidney, blood system and nervous system damage. Methylene chloride is converted to carbon monoxide in the body which may worsen heart disease. May cause cancer based on animal data.

4.3 Indication of any immediate medical attention and special treatment needed: Immediate medical treatment is not required. If symptoms occur, get prompt medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Use carbon dioxide, foam or dry chemical. Do not use water to extinguish fire. Water spray can be used to cool exposed containers and structures.

5.2 Special Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion Hazards: Concentrated vapors can be ignited by an ignition source. Vapors are heavier than air and may and accumulate in low lying areas.

Hazardous Decomposition Products: Combustion may produce hydrogen chloride, phosgene and silicone dioxide.

5.3 Advice for Fire-Fighters:

Firefighters should always wear self-contained breathing apparatus and full protective clothing for fires involving chemicals or in confined spaces. Do not allow run-off from fire fighting to enter drains or water courses. Stay upwind to avoid hazardous vapors and toxic decomposition products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate spill area and keep unprotected personnel away. Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing as described in Section 8.

6.2 Environmental Precautions:

Avoid contamination of soil, surface water and ground water. Do not flush to sewer! Report releases as required by local, state and federal authorities.

6.3 Methods and Material for Containment and Cleaning Up:

Contain and collect using an absorbent material and place in an appropriate container for disposal.

6.4 Reference to Other Sections:

Refer to Section 8 for protective equipment and Section 15 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Avoid contact with the eyes, skin and clothing. Avoid breathing vapors. Do not swallow. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Do not use in poorly ventilated or confined spaces. Vapors are heavier than air and will collect in low areas. Wash thoroughly with soap and water after handling and before eating, drinking or using restroom. Keep containers closed when not in use. Keep away from excessive heat, open flames and all other high energy sources. Do not eat, drink or smoke in work areas.

Do not cut, drill, grind or weld on or near containers, even empty containers. Do not reuse empty containers. Empty containers retain product residues can be hazardous. Follow all SDS precautions when handling empty containers.

In the United States, refer to OSHA 1910.1052 for requirements for handling and use of methylene chloride.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Store in a cool, dry, well ventilated area away from ignition sources. Keep containers tightly closed when not in use. Prevent moisture from entering containers. Store away from oxidizers and other incompatible materials.

Do not store product in aluminum, zinc, aluminum alloys and plastics containers. Contact with aluminum parts in a pressurized system may cause violent reactions.

7.3 Specific end use(s):

Welding product

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	Exposure Limits
Methylene Chloride (Dichloromethane)	25 ppm TWA OSHA PEL, 125 ppm STEL 50 ppm TWA ACGIH TLV 100 ppm TWA UK OEL, 300 ppm STEL 75 ppm TWA Germany AGS, 300 ppm STEL
Alkyl-Aryl Siloxane Copolymer	None Established

In the United States, 29 CFR 1910.1052 is the OSHA regulation on Occupational Exposure to Methylene Chloride. Assure compliance with these regulations.

8.2 Exposure Controls:

Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits. Use explosion proof equipment where required.
Respiratory Protection: If the exposure limits are exceeded an approved full facepiece supplied air respirator or self-contained breathing apparatus should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.
Skin Protection: Wear impervious gloves such as viton, poly vinyl alcohol (PVA).
Eye Protection: Chemical safety goggles and/or faceshield should be worn to where splashing is possible.
Other: Solvent resistant boots apron and headgear should be used to prevent contact. A safety shower and eye wash should be available in the immediate work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties:

Appearance Clear, colorless liquid	**Vapor Density:** 2.9 (air =1)
Odor: Mild, sweet odor.	**Specific Gravity:** 1.31
Odor Threshold: 160 ppm (methylene chloride)	**Water Solubility:** 1.32 gm/100 gm @ 25°C
pH: Not available	**Octanol/Water Partition Coefficient:** Not available
Melting Point/Freezing Point: Not applicable	**Autoignition Temperature:** Not applicable
Boiling Point: 103.1°F (39.5°C)	**Decomposition Temperature:** Not applicable
Flash Point: None	**Viscosity:** Not applicable
Evaporation Rate: 0.7 (ether = 1)	**Explosion Properties:** Vapors may explode in confined areas.
Flammable Limits: LEL: 13% UEL: 23%	**Oxidizing Properties:** Not an oxidizer
Vapor Pressure: 352 mmHg @ 20°C	

9.2 Other Information:

None

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Not reactive under normal conditions of use.

10.2 Chemical Stability:

Stable under normal storage and handling conditions.

10.3 Possibility of Hazardous Reactions:

Contact with moisture may yield trichloroacetic acid and hydrochloric acid.

10.4 Conditions to Avoid:

Avoid contact with open flames, electric arc and other hot surfaces which can cause thermal decomposition.

10.5 Incompatible Materials:

Avoid alkalies, acids, oxidizing agents and reactive metals such as aluminum and its alloys, zinc, magnesium, potassium and sodium.

10.6 Hazardous Decomposition Products:

Carbon monoxide, hydrogen chloride, phosgene and chlorine.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Eyes: Vapors or mists may cause irritation, redness and tearing. Direct contact may cause temporary eye damage.
Skin: Liquid methylene chloride is painful and irritating if confined to skin by gloves, clothing, etc. Prolonged or

repeated contact may cause irritation, defatting of skin, and dermatitis. Absorption through intact skin is possible if contact with liquid is prolonged.
Ingestion: Ingestion may cause mucous membrane and gastrointestinal irritation, nausea, vomiting or diarrhea and other symptoms listed under inhalation. Alcohol consumed before or after exposure may increase adverse effects.
Inhalation: Inhalation of vapors or mists may cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, nausea, incoordination, drunkenness, stupor, irregular heartbeat, cardiac arrest, unconsciousness and death. Overexposure may cause cardiac sensitization and increased risk of cardiac arrest, adverse effects on the lungs, liver, kidney, nervous system and other internal organs. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride causing stress on the cardiovascular system. Alcohol consumption may increase adverse effects.

Acute Toxicity Values:
Methylene Chloride: Oral rat LD50 >2000 mg/kg, Inhalation rat LC50 49 mg/L/7 hr, Skin rat LD50 >2000 mg/kg.
Alkyl-Aryl Siloxane Copolymer: No toxicity data available

Irritation: Methylene chloride has been shown to be irritating in humans on repeated contact particularly when sealed to the skin by shoes or tight clothing.

Corrosivity: This is not a corrosive product.

Sensitization: This product is not expected to cause sensitization.

Repeat Dose Toxicity: Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace, of which 252 were exposed for a minimum of 20 years, did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

Carcinogen Status: Methylene chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000 and 4,000 ppm increased the incidence of malignant liver and kidney tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250-ppm/kg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500-ppm lifetime did not show an increased incidence of tumors.

Methylene Chloride is listed by IARC as “Possibly Carcinogenic to Humans (Group 2B) by IARC, as “Reasonably Anticipated to Be a Human Carcinogen” by NTP, as a “Confirmed Animal Carcinogen with Unknown Relevance to Humans (A3) by ACGIH, and a Carcinogen Category 2 by the European Union. It is regulated by OSHA as a carcinogen. None of the other ingredients are classified as carcinogens by IARC, NTP, ACGIH, OSHA, or the CLP Regulation (EC) No 1272/2008.

Germ Cell Mutagenicity: Methylene chloride tested positive in AMES test but negative in CHO assay and in vivo micronucleus assay.

Toxicity for Reproduction: Methylene chloride has been shown to cause reproductive toxicity and/or birth defects only at doses that produce significant toxicity in the parent animal.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:
Methylene Chloride: LC50/96-hour Fathead Minnow - >190 mg/l, 48 hr LC50 daphnia magna 27 mg/L

12.2 Persistence and Degradability:
Methylene is reported to completely biodegrade under aerobic conditions with sewage seed or activated sludge between 6 hours to 7 days. 86-92 % conversion to CO2 will occur after a varying acclimation period using anaerobic digestion in wastewater.

12.3 Bioaccumulative Potential::
Methyene chloride as an estimated BCF of <2 which suggests the potential for bioaccumilation is low.

12.4 Mobility in Soil:
Methylene chloride is expected to be highly mobile in soil.

12.5 Results of PBT and vPvB Assessment:
Not required.

12.6 Other Adverse Effects:
None known.

SECTION 13: DISPOSAL INFORMATION

13.1 Waste Treatment Methods
Dispose in accordance with local and national environmental regulations.

SECTION 14: TRANSPORT INFORMATION

	41.1 UN Number	41.2 UN Proper Shipping Name	14.3 Transport Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	UN1593	Dichloromethane	6.1	III	Not applicable
EU ADR/RID	UN1593	Dichloromethane	6.1	III	Not applicable
IMDG	UN1593	Dichloromethane	6.1	III	Not applicable

14.6 Special Precautions for User:
None

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:
Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

International Inventories:
US EPA TSCA Inventory: All of the components are listed on the TSCA inventory.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List.
European Union: All of the components of this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS) inventory.
Australia: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances (AICS).
China: All of the ingredients of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).
Korea: All of the components of this product are listed on the Korean Existing Chemical List (KECL).
Japan: All of the components of this product are listed on the Japanese Existing and New Chemical Substances List (ENCS).
New Zealand: All of the components of this product are listed on the New Zealand Inventory of Chemicals (NZIoC).
Philippines: All of the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

U.S. REGULATIONS
CERCLA: This product has a Reportable Quantity (RQ) of 1,000 lbs. based on the RQ for methylene chloride 1,000 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
EPA SARA 302: This product does not contain chemicals regulated under SARA Section 302.
EPA SARA 311 Hazard Classification: Acute Health, Chronic Health
EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313:

Methylene Chloride	75-09-2	>90

California Proposition 65: This product contains the following chemicals which are known to the State of California to cause cancer, reproductive toxicity or birth defects: Methylene Chloride >90% (cancer).

INTERNATIONAL REGULATIONS

WHMIS Classification: Class D Division 1 Subdivision B (Toxic material causing immediate and serious toxic effects), Class D Division 2 Subdivision B (Very Toxic Material Causing Other Toxic Effects)

15.2 Chemical Safety Assessment:
Not required

SECTION 16: OTHER INFORMATION

SDS Revision History:
09/26/14: Converted US SDS to EU REACH SDS
10/6/14: Section 2 GHS Classification, Hazard Phrases, Precautionary Phrases, Section 3, GHS Classification, Section 4 First Aid Measurers, Most Important symptoms and effects, Indication of any immediate medical attention and special treatment, Section 9, Flammable Limits, Vapor Density, Section 11 Information on Toxicological Effects – Ingestion, Carcinogen Status, Section 12 – Toxicity, Section 15 WHMIS Classification, Section 16 GHS Phrases for Reference

GHS Phrases for Reference (See Section 2 and 3):
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H350 May cause cancer.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):
Xn Harmful
Carc Cat 2 Carcinogen Category 2
R40 Possible risk of cancer.

MSDS Material Safety Data Sheet
The Blaster Corporation

PB Penetrating Catalyst

MSDS Number: PB - Aerosol | Revision Date: 12/1/13

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: PB Penetrating Catalyst
Revision Date: 12/1/13
MSDS Number: PB - Aerosol
Common Name: PB Blaster
Product Code: 16-PB, 8-PB, 8-PBS, PBTS, 20-PB

Manufacturer:

The Blaster Corporation
8500 Sweet Valley Drive
Valley View, Ohio 44125

(216) 901-5800
(216) 901-5801 fax
www.blasterproducts.com

24 Hour emergency contact: Chemtrec (800) 424-9300
customer #: 2847

2 COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS #	Percent	Exposure Limits
Dinonylphenol ethoxylated phosphated	39464-64-7	0-3%	OSHA (TWA)- N/E ACGIH (TWA)- N/E
Solvent Naphtha, Heavy Aromatic**	64742-94-5	20-30%	OSHA (TWA)- N/E ACGIH (TWA)- N/E
Heavy Petroleum Distillate	64742-52-5	20-30%	OSHA (TWA)-N/E ACGIH (TLV)- N/E
Hydrotreated Light Distillate	64742-47-8	50-60%	OSHA (TWA)- N/E ACGIH (PEL)- 500 ppm
Carbon Dioxide (propellant)	124-38-9	1-5%	OSHA (TWA) 5000ppm ACGIH (TWA) 5000ppm

** See section 8 for component Limits

3 HAZARDS IDENTIFICATION

Route of Entry: Eyes, skin, inhalation, ingestion
Target Organs:
Inhalation: Inhalation of spray mist may cause irritation to the respiratory tract. May aggravate pre-existing respiratory disorders.
Skin Contact: Repeated or prolonged contact with skin may cause mild irritation and possibly dermatitis. May aggravate pre-existing skin disorders.
Eye Contact: Likely to cause immediate or delayed irritaion. Irritation will show as redness and/or swelling of the eyes.

Ingestion: Ingestion may cause irritation to the mouth, esophagus and stomach.

Aerosols: Sudden release of pressure could produce projectiles and atomized combustible liquid.

Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

4 FIRST AID MEASURES

Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Continue to monitor. Get medical attention.
Skin Contact:	Remove contaminated clothing immediately! Wash skin with soap and water. If irritation develops, seek medical attention.
Eye Contact:	Flush eye(s) with water for 15 minutes. Get medical attention. If eye irritation persists, obtain medical treatment.
Ingestion:	Do not induce vomiting! Get medical attention immediately!

5 FIRE FIGHTING MEASURES

Flash point: 150°F (TCC) minimum

Extinguishing Media: Dry chemical, carbon dioxide or foam is recommended. Water may be ineffective for extinguishment, but can be useful in minimizing or dispersing vapors, protecting personnel and cooling containers. If containers are not properly cooled they can rupture in the heat of a fire. Avoid spreading burning liquid with water used for cooling purposes.

Unusual Fire & Expolsion Hazards: Level 3 Aerosols **-** Contents Under Pressure!

6 ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition and ventilate the area. See section 8 for the appropriate personal protection. Aerosol cans should be handled with caution. Sudden release of pressure could produce projectiles and atomized combustible liquid. Leaking aerosol cans should be put into suitable container until the internal pressure has dissipated. Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains. Use suitable absorbents to collect liquid product. Consult regulations for the proper disposal of the container, liquid and absorbents.

7 HANDLING AND STORAGE

Handling Precautions:	Use in accordance with good industrial workplace practices. Avoid unnecessary contact. Wash thoroughly after handling. Use with good ventilation.
Storage Requirements:	Store in a dry place away from excessive heat. Store containers with lids on and properly labeled. Do not store at temperatures above 120 degrees F.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Eye wash stations and emergency showers should be immediately available.

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Protective Equipment:

Eyes and Face: Standard safety glasses with splash shields typically offer adequate protection. Where excessive splashing or spraying is possible, a face shield should be used.

Skin and clothing: Excessive contact should be avoided. Neoprene gloves, boots and aprons will provide adequate protection when contact cannot be avoided. Remove and wash any contaminated clothing immediately. Wash thoroughly after handling.

Respiratory: Good general ventilation should be sufficient to control airborne levels. Maintain airborne concentrations below OSHA established exposure limits of ingredients in Section 2. Use a NIOSH approved respirator if ventilation is not adequate to maintain exposures below TLV levels.

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Exposure Guidelines/Other:

Ingredients	CAS #	Percent	Exposure Limits
Heavy Petroleum Distillate*** oil mist oil mist	64742-65-0	20-30%	OSHA (TWA)- 5 ppm ACGIH (PEL)- 5 ppm
Hydrotreated Light Distillate	64742-47-8	45-55%	OSHA (TWA)- N/E ACGIH (PEL)- 200 ppm

SOLVENT NAPHTHA, PETROLEUM, HEAVY AROMATIC - BREAKDOWN 20-30%

Name	CAS #	% by Weight	Exposure Lin
Solvent naphtha, petroleum, heavy arom.	64742-94-5	100	Not established.
1,2-Dimethyl-4-ethylbenzene	934-80-5	10-20	Not established.
1,2,3,5-Tetramethylbenzene	527-53-7	10-20	Not established.
1,2,4,5-Tetramethylbenzene	95-93-2	5-15	Not established.
1,3-Dimethyl-4-ethylbenzene	874-41-9	2-10	Not established.
1,3-Dimethyl-5-ethylbenzene	934-74-7	2-10	Not established.
1,4-Dimethyl-2-ethylbenzene	1758-88-9	2-10	Not established.
1-Methyl-3-propylbenzene	1074-43-7	2-10	Not established
Naphthalene	91-20-3	< 10	**ACGIH TLV (United States, 1/** TWA: 52 mg/m³ 8 hour(s) STEL: 79 mg/m³ TWA: 10 ppm 8 hour(s) STEL: 15 ppm **OSHA PEL 1989 (United Stat** TWA: 50 mg/m³ 8 hour(s) TWA: 10 ppm 8 hour(s)
1,4-diethylbenzene	105-05-5	1-5	Not established.
1,2,3-Trimethylbenzene	526-73-8	1-5	**ACGIH TLV (United States, 1/** TWA: 123 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s). **OSHA PEL 1989 (United Stat** TWA: 125 mg/m³ 8 hour(s). TWA: 25 ppm 8 hour(s).
1-methyl-4-n-propylbenzene	1074-55-1	1-5	Not established.
1,2,4-Trimethylbenzene	95-63-6	<2	10 Hr TWA: 25 ppm (125 mg/c Mixed Isomers of trimethylbenz 8 hr TWA: 25 ppm ACGIH
2-Methylnaphthalene	91-57-6	<2	Not established.
1,3-diethylbenzene	141-93-5	<2	Not established.

The Blaster Corporation takes no responsibility for determining what measures are required for personal protection in any specific application. This information should be used with discretion.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Orange viscous oily		
Physical State:	Liquid	**Boiling Point:**	352 F
Odor:	Heavy aromatic	**Freezing/Melting Pt.:**	Not determined
pH:	Not determined	**Solubility:**	nil
Vapor Pressure:	Not determined	**Spec Grav./Density:**	0.91 (water = 1)
Vapor Density:	>1 (air = 1)		

Heat Value:	Not determined
VOC:	<50%
Evap. Rate:	<1 (NBA = 1)
Bulk Density:	Not determined
Octanol:	Not applicable
Molecular Weight:	Not determined
Particle Size:	Not applicable
Softening Point:	Not applicable
Viscosity:	Not determined
Percent Volatile:	Not determined
Sat. Vap. Concentrat.:	Not determined
Molecular Formula:	Not determined

10 STABILITY AND REACTIVITY

Stability:	This product is stable.
Conditions to avoid:	Avoid excessive heat, sources of ingition and excessive water.
Materials to avoid (incompatability):	Avoid contact with strong oxidizing agents and strong reducing agents (strong acids or bases.) Avoid mixture with water.
Hazardous Decomposition products:	Carbon monoxide, carbon dioxide, and various hydrocarbons.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Hydrotreated Light Distillates 64742-47-8
ACUTE STUDIES
EYE EFFECTS Slight irritation on contact.
SKIN EFFECTS May cause irritation or dermatitis with prolonged and repeated contact.
ACUTE ORAL EFFECTS Tests on similar materials indicate an order of acute oral toxicity.
ACUTE INHALATION EFFECTS Acute toxicity expected on inhalation.

LD50 Dermal Rabbit >2000 mg/kg LD50 Oral Rat >5000 mg/kg

This product is not listed as carcinogenic or a potential carcinogen by the National Toxicology Program, by the I.A.R.C. monographs or by OSHA. Therefore, if the precautions outlined in this bulletin are followed to minimize repeated or prolonged skin contact which could cause irritation, these oils should pose no carcinogenic hazard to humans. Prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Nevertheless, good industrial hygienic practices are recommended.

Hydrotreated Heavy Naphthenic Oil 64742-52-5
Acute Toxicity: Tests on similar materials show a low order of acute oral and dermal toxicity.

Acute Oral Effects: Tests on similar materials indicate low order of acute oral toxicity.
Acute Inhalation Effects: Low acute toxicity expected on inhalation.
Eye Irritation: Minimal irritation on contact. Eye irritation slight or practically non-irritating based on similar products.
Skin Effects: Practically non-toxic if absorbed. Other similar highly refined products have not shown skin tumors in mouse skin painting studies.
Skin Irritation: May cause mild irritation with prolonged and repeated exposure.
Skin Sensitization: Skin sensitization is indicated as non-sensitizing based on data from similar products.
Carcinogenicity:
Skin: Not considered a potential carcinogen based on IP346 DMSO of less than 3.0 wt%.
Genotoxicity: This product is considered non-mutagenic and has negative potential for tumor development based on results from Modified Ames Assay, with Mutagenic Index of less than 1.0. This product is severely hydrotreated at greater than 800 psi, and does not require a cancer warning under OSHA Hazard Communication Standard (29 CFR 1910.1200). Similar products have not been listed in NTP reports, and are classified by IARC as having inadequate evidence of carcinogenicity. IARC indicates that based on preponderance of data highly refined mineral oils are not mutagenic either *in vitro* or *in vivo.* Severely hydrotreated naphthenic petroleum oils have not been found to be carcinogenic or potential carcinogens.

Aromatic Petroleum Distillates contains:
Acute oral toxicity (LD50): 316 mg/kg [Mouse]. (naphthalene).
Acute dermal toxicity (LD50): >2500 mg/kg [Rat]. (naphthalene).
May be irritating to eyes, skin and respiratory system. Aspiration hazard if swallowed. Can enter lungs and cause damage.
CARCINOGENIC EFFECTS: Classified 2B (Possible for humans.) by IARC [naphthalene].
Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP [naphthalene].
Classified A4 (Not classifiable for humans or animals.) by ACGIH [naphthalene].
May cause damage to the following organs: lungs, central nervous system (CNS), digestive system, upper respiratory tract, skin, eyes, blood, kidneys, liver.
NTP concluded based on inhalation studies that there is *clear evidence of carcinogenic activity* of naphthalene in rats based on increased incidences of respiratory epithelial adenoma (tissue tumors) and olfactory epithelial neuroblastoma (malignant tumors) of the nose.

Dinonylphenol, ethoxylated, phosphated

INHALATION: : Irritating
EYE CONTACT: Irritating, but will not permanently injure eye tissue.
SKIN CONTACT: Prolonged or repeated contact may cause skin irritation.
INGESTION: May cause irritation.
CHRONIC (CANCER) INFORMATION: Not listed
No known long term effects.

12 ECOLOGICAL INFORMATION

Ecological studies have not been conducted for this product.

13 DISPOSAL CONSIDERATIONS

Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

Aerosol containers should be emptied and depressurized before disposal. Empty containers may be recycled.

14 TRANSPORT INFORMATION

DOT and IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY

The Blaster Corporation does not recommend shipping their aerosol products by air.

15 REGULATORY INFORMATION

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Superfund Amendments Reauthorization Act (SARA TITLE) III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product contains a chemical known to the State of California to cause cancer.

VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Consumer Product Safety Act General Conformity Certification: This product was evaluated by The Blaster Corporation, and is certified to be in compliance with the provisions of the Consumer Product Safety Act, the Federal Hazardous Substances Act and the Poison Prevention Packaging Act, as applicable. This product was manufactured at the location listed in Section 1 of this MSDS. The date of manufacture is stamped on the product container. No testing is required to certify compliance with the above.

16 OTHER INFORMATION

Manufacturer's Disclaimer:
To the best of our knowledge, the information contained herein is accurate. However, neither The Blaster Corporation nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazard which exists.

HMIS Ratings:		NFPA Ratings:	
Health:	2	**Health:**	2
Fire:	2	**Fire:**	2
Reacitivity:	0	**Reacitivity:**	0

END OF MSDS DOCUMENT

PEAK Concentrate Antifreeze & Coolant (Conventional Green Formula)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : PEAK Concentrate Antifreeze & Coolant (Conventional Green Formula)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Antifreeze & Coolant

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
STOT RE 2 H373

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H302 - Harmful if swallowed
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear personal protective equipment as required
P301+P310 - If swallowed: Immediately call doctor/physician or poison center
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% by wt	GHS-US classification
ethylene glycol	(CAS No) 107-21-1	90 - 97	Acute Tox. 4 (Oral), H302
diethylene glycol	(CAS No) 111-46-6	< 5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
water	(CAS No) 7732-18-5	< 4	Not classified
denatonium benzoate	(CAS No) 3734-33-6	30 - 50 ppm	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Remove contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes), Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes damage to organs (kidneys) Oral.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

4.3. Indication of any immediate medical attention and special treatment needed

A more effective intravenous antidote for physician uses is 4-methylpyrazaole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occured.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog. Fine water spray. Foam. Carbon dioxide. Dry chemical powder. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Special protective equipment for fire fighters : Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Refer to section 8.2.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Store away from other materials.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Product may become solid at temperatures below -18 °C (0 °F). Do not store near food, foodstuffs, drugs or potable water supplies. Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethylene glycol (107-21-1)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
ACGIH	Remark (ACGIH)	Upper Respiratory Tract (URT) & Eye irritant
OSHA	Not applicable	

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Respiratory protection not required in normal conditions. If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Green
Odor	: Mild
Odor threshold	: No data available
pH 50% water solution	: 10.5 - 11
Relative evaporation rate (butylacetate=1)	: Nil
Freezing point	: -18 °C (0 °F)
Boiling point	: 158 °C (317 °F)
Flash point	: 116 °C (241 °F) [100% Ethylene Glycol] *ASTM D56*
Auto-ignition temperature	: 400 °C (752 °F) [100% Ethylene Glycol] *Literature*
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0.1 mm Hg @ 20 °C
Relative vapor density at 20 °C	: No data available
Specific Gravity	: 1.12
Density	: 1.12 kg/l (9.34 lbs/gal)
Solubility	: Water: Complete
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 3.2 - 15.3 vol %

9.2. Other information

VOC content : 0.00 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Extremely high or low temperatures. Keep away from any flames or sparking source.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

alcohols. Carbon dioxide. Carbon monoxide. Fume. alcohols. Aldehydes. Ethers.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

ethylene glycol (107-21-1)	
LD50 oral rat	> 5,000.00 mg/kg (Rat; Literature study)

ethylene glycol (107-21-1)	
ATE US (oral)	500.00 mg/kg bodyweight

diethylene glycol (111-46-6)	
LD50 dermal rabbit	11,890.00 mg/kg (Rabbit)
ATE US (oral)	500.00 mg/kg bodyweight
ATE US (dermal)	11,890.00 mg/kg bodyweight

denatonium benzoate (3734-33-6)	
LD50 oral rat	584.00 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2,000.00 mg/kg (Rabbit; Literature study)
ATE US (oral)	584.00 mg/kg bodyweight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

SECTION 12: Ecological information

12.1. Toxicity

ethylene glycol (107-21-1)	
EC50 Daphnia 1	> 10,000.00 mg/l (EC50; 24 h)
LC50 fish 2	40,761.00 mg/l (LC50; 96 h; Salmo gairdneri)

diethylene glycol (111-46-6)	
LC50 fish 1	> 5,000.00 mg/l (LC50; 24 h)
EC50 Daphnia 1	> 10,000.00 mg/l (EC50; 24 h)

denatonium benzoate (3734-33-6)	
LC50 fish 1	> 1,000.00 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1	13.00 mg/l (EC50; 48 h; Daphnia magna)

12.2. Persistence and degradability

ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance
BOD (% of ThOD)	0.36

diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	1.51 g O_2/g substance
ThOD	1.51 g O_2/g substance
BOD (% of ThOD)	0.02

denatonium benzoate (3734-33-6)	
Persistence and degradability	Biodegradability in water: no data available. No (test) data on mobility of the substance available.

12.3. Bioaccumulative potential

ethylene glycol (107-21-1)	
BCF fish 1	10.00 (BCF; 72 h)
BCF other aquatic organisms 1	0.21 - 0.6 (BCF)
BCF other aquatic organisms 2	190.00 (BCF; 24 h)
Log Pow	-1.34 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

diethylene glycol (111-46-6)	
BCF fish 1	100.00 (BCF; Other; 3 days; Leuciscus melanotus; Static system; Fresh water; Experimental value)
Log Pow	-1.98 (Calculated; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

denatonium benzoate (3734-33-6)	
BCF fish 1	1.4 - 3.6 (BCF; BCFBAF v3.00)
Log Pow	1.78 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

ethylene glycol (107-21-1)	
Surface tension	0.05 N/m (20 °C / 68 °F)

diethylene glycol (111-46-6)	
Surface tension	0.05 N/m
Log Koc	Koc,SRC PCKOCWIN v1.66; 1; Calculated value; log Koc; SRC PCKOCWIN v1.66; 0; Calculated value

12.5. Other adverse effects

Effect on ozone layer : No known effect on the ozone layer

Effect on global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III

UN-No.(DOT)	:	UN3082
Proper Shipping Name (DOT)	:	Environmentally hazardous substances, liquid, n.o.s.
Class (DOT)	:	9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT)	:	9 - Class 9 (Miscellaneous dangerous materials)

Packing group (DOT)	:	III - Minor Danger
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	241
DOT Symbols	:	G - Identifies PSN requiring a technical name
DOT Packaging Exceptions (49 CFR 173.xxx)	:	155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	No limit
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel
Other information	:	Non Bulk: Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package).

TDG

Refer to current TDG Canada for further Canadian regulations

Transport by sea

Proper Shipping Name (IMDG) : Not regulated by IMDG (in quantites under 5,000 lbs in any one inner package)

Air transport

Proper Shipping Name (IATA) : Not regulated by IATA (in quantites under 5,000 lbs in any one inner package)

SECTION 15: Regulatory information

15.1. US Federal regulations

PEAK Concentrate Antifreeze & Coolant (Conventional Green Formula)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed

ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA
CERCLA RQ	5000 lb(s)
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting
SARA Section 313 - Emission Reporting	Ethylene glycol is subject to Form R Reporting requirements.

diethylene glycol (111-46-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

denatonium benzoate (3734-33-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

WHMIS Classification

Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

National regulations

PEAK Concentrate Antifreeze & Coolant (Conventional Green Formula)
DSL (Canada): The intentional ingredients of this product are listed ECL (South Korea): The intentional ingredients of this product are listed EINECS (Europe): The intentional ingredients of this product are listed ENCS (Japan): The intentional ingredients of this product are listed

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

ethylene glycol (107-21-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	Yes	No	No	

ethylene glycol (107-21-1)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

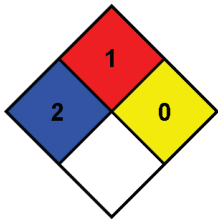
diethylene glycol (111-46-6)
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Full text of H-statements:

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard	:	2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard	:	1 - Must be preheated before ignition can occur.
NFPA reactivity	:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	:	1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	:	1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 ºF (93 °C). (Class IIIB)
Physical	:	0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal Protection		B - Safety glasses, Gloves

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**PERMATEX® Copper Anti-Seize Lubricant - 8 oz. brush top bottle**
Product Code:	09128
Stock No.:	09128
Manufacturer Name:	Permatex, Inc.
Address:	10 Columbus Blvd. Hartford, CT 06106 USA
General Phone Number:	1-87-Permatex, (877) 376-2839
Emergency Phone Number:	800-255-3924
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
MSDS Creation Date:	September 05, 2010
MSDS Revision Date:	December 30, 2012
(M)SDS Format:	

HMIS

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	X

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Mineral Oil	8042-47-5	<3 by weight
Petroleum distillates, hydrotreated heavy naphthenic	64742-52-5	30 - 40 by weight
Calcium Oxide	1305-78-8	10 - 20 by weight
Copper	7440-50-8	15 - 25 by weight
Graphite	7782-42-5	5 - 15 by weight
Light naphthenic hydrotreated distillate	64742-53-6	5 - 15 by weight
Lithium soap mixture	Mixture	<3 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview:	CAUTION! Harmful. Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury.
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	>225°F (106.3°C)
Flash Point Method:	PMCC
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	May ignite when sufficient heat is applied.
Hazardous Combustion Byproducts:	Oxides of carbon and other unknown organic compounds. Irritating fumes and gases may be released upon thermal processing or during combustion.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Methods for containment:	Eliminate all sources of ignition. Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.
Methods for cleanup:	Eliminate all sources of ignition. Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.
Other Precautions:	Pump or shovel to storage/salvage vessels. Add inhibitor to prevent polymerization.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Petroleum distillates, hydrotreated heavy naphthenic :

Guideline Type:	
Guideline Info:	ACGIH TLV: 5 mg/m3 mist ; OSHA PEL: 5 mg/m3 mist ;

Calcium Oxide :

Guideline Type:	
Guideline Info:	ACGIH TLV: 2 mg/m3 TWA ; OSHA PEL: 5 mg/m3 TWA ;
Guideline ACGIH:	2 mg/m3 TLV-TWA: 2 mg/m3
Guideline OSHA:	5 mg/m3 PEL-TWA: 5 mg/m3

Copper :

Guideline Type:	
Guideline Info:	ACGIH TLV: 10 mg/m3 TWA (metal dust) ACGIH ; OSHA PEL: 15 mg/m3 TWA (total dust), 5 mg/m3 TWA

	(respirable) ;
Guideline ACGIH:	10 mg/m3 TLV-TWA: 1 mg/m3 Respirable fraction (R) TLV-TWA: 10 mg/m3 TLV-TWA: 2 mg/m3 TLV-TWA: 5 mg/m3
Guideline OSHA:	15 mg/m3 PEL-TWA: 15 mg/m3 Total particulate/dust (T) PEL-TWA: 5 mg/m3 Respirable fraction (R)

Graphite :

Guideline ACGIH:	2 mg/m3 TLV-TWA: 2 mg/m3 Respirable fraction (R)
Guideline OSHA:	15 mppcf PEL-TWA: 15 mppcf

Light naphthenic hydrotreated distillate :

Guideline ACGIH:	TLV-TWA: 5 mg/m3 (Oil mist)
Guideline OSHA:	PEL-TWA: 5 mg/m3 (Oil mist)
Guideline NIOSH:	REL-TWA: 5 mg/m3 (Oil mist)

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Paste.
Color:	Copper color
Odor:	Petroleum distillates.
Boiling Point:	Not determined.
Melting Point:	Not determined.
Specific Gravity:	1.31
Vapor Density:	Not determined.
Vapor Pressure:	Not determined.
Evaporation Rate:	Not determined.
Evaporation Point:	Not determined.
pH:	Does not apply
Flash Point:	>225°F (106.3°C)
Flash Point Method:	PMCC
VOC Content:	None

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Polymerization may occur under certain conditions.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions.
Incompatible Materials:	Oxidizing agents (eg peroxides, nitrates), reducing agents, acids, bases, azo-compounds, catalytic metals (eg copper, iron), halogens. Free radical initiators. Oxygen scavengers.

SECTION 11 : TOXICOLOGICAL INFORMATION

Mineral Oil :

RTECS Number:	PY8047000

Petroleum distillates, hydrotreated heavy naphthenic :

RTECS Number:	PY8035000
Skin:	Administration onto the skin - Rabbit : >5 gm/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit : >2000 mg/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit : 500 mg Administration onto the skin - Mouse : 480 gm/kg/80W (Intermittent) [Tumorigenic - neoplastic by RTECS criteria Skin and Appendages - Tumors Tumorigenic - Tumors at site of application] Administration onto the skin - Mouse : 402 gm/kg/78W (Intermittent) [Tumorigenic - equivocal Tumorigenic agent by RTECS criteria Skin and Appendages - Tumors Tumorigenic - Tumors at site of application] Administration onto the skin - Mouse : 398 gm/kg/22W (Intermittent) [Tumorigenic - equivocal Tumorigenic agent by RTECS criteria Skin and Appendages - Tumors Tumorigenic - Tumors at site of application]

Calcium Oxide :

RTECS Number:	EW3100000

Copper :

RTECS Number:	BD0330000

Graphite :

RTECS Number:	MD9659600

Light naphthenic hydrotreated distillate :

Ingestion:	Oral - rat LD: >5 gm/kg - [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	Not determined.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT UN Number:	Not applicable.
DOT Hazard Class:	Not applicable.
DOT Packing Group:	Not applicable.
IATA Shipping Name:	Non regulated.
IATA UN Number:	Not applicable.

SECTION 15 : REGULATORY INFORMATION

Mineral Oil :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Petroleum distillates, hydrotreated heavy naphthenic :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Calcium Oxide :

TSCA Inventory Status:	Listed
Massachusetts:	Listed
Pennsylvania:	Listed
Canada DSL:	Listed

Copper :

TSCA Inventory Status:	Listed
New Jersey:	Listed: NJ Hazardous List; Substance Number: 0054
Massachusetts:	Listed
Pennsylvania:	Listed
Canada DSL:	Listed

Graphite :

TSCA Inventory Status:	Listed
Massachusetts:	Listed
Pennsylvania:	Listed
Canada DSL:	Listed

Light naphthenic hydrotreated distillate :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
Canadian Regulations.	WHMIS Hazard Class(es): D2B All components of this product are on the Canadian Domestic Substances List.
WHMIS Pictograms:	

SECTION 16 : ADDITIONAL INFORMATION

MSDS Creation Date:	September 05, 2010
MSDS Revision Date:	December 30, 2012
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Permatex(R) Thread Sealant with Teflon(R)
Item No.: 80631
Part No.: 14AR
Product Type: Sealant

TEFLON is a registered trademark of E.I. DuPont de Nemours Company Inc

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
ISOPROPYL ALCOHOL	67-63-0	35-40
TALC	14807-96-6	25-30
Vegetable oil	8001-79-4	20-25
Vinyl resin	63148-65-2	10-15
Poly(tetrafluoroethylene)	9002-84-0	1-3
TITANIUM DIOXIDE	13463-67-7	1-3

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
ISOPROPYL ALCOHOL	400 ppm TWA 983 mg/m3	400 ppm TWA 980 mg/m3	400 ppm TWA DuPont AEL
TALC	2 mg/m3 TWA respirable dust	2 mg/m3 TWA respirable dust	None
Vegetable oil	10 mg/m3 mist	15mg/m3mistdust 5mg/m3mist resp	None
Poly(tetrafluoroethylene)	None	None	AEL (DuPont) 5mg/m3 8hr dust
TITANIUM DIOXIDE	10 mg/m3 dust	15 mg/m3 dust 5 mg/m3 resp	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ISOPROPYL ALCOHOL	500 ppm 1230 mg/m3	500 ppm 1225 mg/m3

3. HAZARDS IDENTIFICATION

Toxicity: Eye irritant. Moderately toxic by ingestion.
Primary Routes of Entry: Inhalation, ingestion, contact.
Signs and Symptoms of Exposure: Vapors cause irritation of eyes, nose and throat above TLV. Headache, nausea, dizziness may occur.
Existing Conditions Aggravated by Exposure: Skin, eye, and respiratory disorders.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
ISOPROPYL ALCOHOL	ALG BLO CNS IRR KID	NO	N/A	NO
TALC	IRR LUN SOM	NO	N/A	NO
Vegetable oil	IRR	NO	NO	NO
Vinyl resin	IRR	NO	NO	NO
Poly(tetrafluoroethylene)	NTO	NO	N/A	NO
TITANIUM DIOXIDE	IRR RES	NO	NO	NO

Abbreviations

N/A Not Applicable
BLO Blood
IRR Irritant
LUN Lung
RES Respiratory
ALG Allergen
CNS Central nervous system
KID Kidney
NTO No Target Organs
SOM Evidence of some carcinogenicity

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.
Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.
Skin Contact: Wash with soap and water.
Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

Product Name: Permatex(R) Thread Sealant with Teflon(R)
Item No.: 80631

5. FIRE FIGHTING MEASURES

Flash Point:	74°F Method: Tag closed cup
Recommended Extinguishing Agents:	Carbon dioxide, foam, dry chemical
Special Firefighting Procedures:	Not available
Hazardous Products formed by Fire or Thermal Decomp	Toxic fluorides
Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	2.3%
(% by volume in air)Upper	12.7%

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak: Remove ignition sources. Maintain adequate ventilation. Soak up with an inert absorbent. Store in a closed container until disposal. Clean up with isopropyl alcohol.

7. HANDLING AND STORAGE

Safe Storage:	Store away from heat,sparks or flame.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid eye contact. Avoid prolonged skin contact or prolonged breathing of fumes.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Must be adequate to avoid exceeding TLV.
Respiratory	Not available

See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White paste
Odor:	Alcoholic
Boiling Point:	180 F
pH:	Does not apply
Solubility in Water:	Partial
Specific Gravity	1.12 at 77°F
Volatile Organic Compound (EPA Method 24)	37.9%
Vapor Pressure:	33 mm at 68°F
Vapor Density:	2.07
Evaporation Rate (Ether = 1)	7.7

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Strong oxidizing agents.
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	D001 - Hazardous waste per 40CFR 261.21

Product Name: Permatex(R) Thread Sealant with Teflon(R)
Item No.: 80631

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)
Domestic Ground Transport
- Proper Shipping Name: Consumer Commodity (Not more than five liters); Resin solution (More than five liters)
- Hazard Class or Division: ORM-D (Not more than five liters); Class 3, Packing Group III (More than five liters)
- Identification Number: None (Not more than five liters); UN 1866 (More than five liters)
- Marine Pollutant: None

IATA
- Proper Shipping Name: Consumer Commodity (Not more than 500 ml); Resin Solution (More than 500 ml)
- Class or Division: Class 9 (Not more than 500 ml); Class 3, Packing Group III (More than 500 ml)
- UN or ID Number: ID 8000 (Not more than 500 ml); UN 1866 (More than 500 ml)

15. REGULATORY INFORMATION

CA Proposition 65: No Prop65 chemicals are known to be present.

16. OTHER INFORMATION

Estimated NFPA(R) Code:
- Health Hazard: 2
- Fire Hazard: 3
- Reactivity Hazard: 0
- Specific Hazard: Does not apply

Estimated HMIS(R) Code:
- Health Hazard: 2
- Flammability Hazard: 3
- Reactivity Hazards: 0
- Personal Protection: See Section 8.

Prepared By: Stephen Repetto
Title: Research Chemist- Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: January 27, 1999 Revision: 0030

P&G Professional™

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**PGP Cascade Professional Automatic Dishwashing Detergent**
Product Code	99300379
Version #	01
Manufacturer	Procter & Gamble Professional
Address	2 P&G Plaza Cincinnati Ohio 45202 US
P&G Telephone Number:	1-800-332-7787
Emergency 24-hr Telephone #:	CHEMTREC 1-800-424-9300

2. Hazards Identification

Potential health effects

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Accidental exposure will cause a mild but transient irritation.
Skin	Mild skin irritation
Inhalation	May be irritating.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Potential environmental effects	Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered minimal.

3. Composition / Information on Ingredients

Components	CAS #	Percent
SODIUM CARBONATE	497-19-8	15-40
SODIUM CARBONATE PEROXYHYDRATE	15630-89-4	1-5
SODIUM SILICATE	1344-09-8	1-5

4. First Aid Measures

First aid procedures

Eye contact	After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if symptoms persist.
Skin contact	Wash affected area with mild soap and water. Rinse with plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Give victim water or milk. Do not induce vomiting. Call a physician or Poison Control Center immediately.

5. Fire Fighting Measures

Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Extinguishing media

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters

Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Wear suitable protective clothing.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Clean-up methods and materials and containment measures	In case of spills, beware of slippery floors and surfaces. Sweep or scoop up and remove. Following product recovery, flush area with water.

7. Handling and Storage

Handling	Use personal protective equipment as required. Avoid contact with skin. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of reach of children.
Storage	Store in a cool and well-ventilated place. Keep away from moisture.

8. Exposure Controls / Personal Protection

Engineering controls	Provide adequate ventilation.

Personal protective equipment

Eye / face protection	Not normally needed.
Skin protection	Not normally needed. If prolonged or repeated contact is likely, protective gloves are recommended. Neoprene gloves. Rubber gloves.
Respiratory protection	Not normally needed.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Color	White.
Form	Solid.
Odor	Scented
pH	11.3 (1% solution)
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Vapor pressure	Not available.
Specific gravity	Not available.
Solubility (water)	100 (Nearly 100% at 20ºC)
Partition coefficient (n-octanol/water)	Not available
VOC	Not available.
Percent volatile	0 % estimated
Density	> 1.03 g/cm3

10. Chemical Stability & Reactivity Information

Chemical stability	This is a stable material.
Conditions to avoid	Do not store near acids. or Ammonia.

Hazardous decomposition products	Chlorine gas
Hazardous polymerization	Will not occur.

11. Toxicological Information

Toxicological data

Components	Test Results
SODIUM SILICATE (1344-09-8)	Acute Oral LD50 Mouse: 1100 mg/kg Acute Oral LD50 Rat: 1.1 g/kg
SODIUM CARBONATE PEROXYHYDRATE (15630-89-4)	Acute Oral LD50 Mouse: 2200 mg/kg Acute Oral LD50 Rat: 2400 mg/kg
SODIUM CARBONATE (497-19-8)	Acute Inhalation LC50 Guinea pig: 0.8 mg/l 2 Hours Acute Inhalation LC50 Mouse: 1.2 mg/l 2 Hours Acute Inhalation LC50 Rat: 2.3 mg/l 2 Hours Acute Oral LD50 Rat: 4090 mg/kg Acute Other LD50 Mouse: 116.6 mg/kg 30 Days

Sensitization	Not available.
Local effects	Irritating to respiratory system. Irritating to eyes. Irritating to skin.
Chronic effects	Not available.
Skin corrosion/irritation	Not available.

12. Ecological Information

Environmental effects Based on ecotoxicity and fate data for the individual ingredients in this specific formulation, and for related consumer household cleaning products formulations, this product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment at relevant environmental concentrations. This product is intended for dispersive use and should not be disposed of directly into the environment.

13. Disposal Considerations

Disposal instructions This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes

State regulations

ILLRTK

Contains no Illinois Right To Know toxic substances.

US - Illinois Chemical Safety Act: Listed substance

US - Massachusetts RTK - Substance: Listed substance

SODIUM SULPHATE (CAS 7757-82-6)	LISTED

US - New Jersey Community RTK (EHS Survey): Listed substance

US - New Jersey RTK - Hazardous substance

US - New Jersey RTK - Special Hazard: Listed substance

Contains no New Jersey Right To Know special hazards.

US - New Jersey RTK - Substances: Listed substance

Contains no New Jersey Right To Know Substances

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Contains no Pennsylvania Right To Know hazardous substances

US - Rhode Island RTK - Hazardous Substances: Listed substance

Contains no Rhode Island Right To Know hazardous substances.

Canadian regulations

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Inventory Status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

HMIS® ratings

Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 0
Instability: 0
Special hazards:

Disclaimer

This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Procter & Gamble assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

MD-BOTH INDUSTRIES
40 Nickerson Road
Ashland, MA 01721-1912
Tel: (508) 881-4100
Fax: (508) 881-1656

Hazard Ratings			
Slight	0	HEALTH	2
Minimal	1	FLAMMABILITY	2
Moderate	2	REACTIVITY	1
Serious	3	PERSONAL	
Severe	4	PROTECTION	B

MATERIAL SAFETY DATA SHEET

Date of Preparation: January 30, 2003
Prepared by: Max Hui

SECTION 1

Manufacturer's Name: MD-BOTH Industries
Street Address: 40 Nickerson Road, Ashland, MA 01721
Emergency Telephone #: CHEMTREC 800-424-9300 24 HRS

Chemical Name: Non Leafing Aluminum flake pasted in 35% a solvent mixture of mineral spirits with aromatics

Trade Name:
Polytop 90 SA, Polytop 0900 SA, Polytop 130 SA, Alumet 1200, Alumet 1500, Alumet 1600, Alumet 1700, Alumet 1800, Alucar 2600, Alucar 2900, Alubright 3100, Alubright 3200, Alubright 3400, Alubright 3700.

SECTION 2 -- HAZARDOUS INGREDIENTS

This product contains no toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and 40 CFR 372:

This product also contains the following hazardous ingredients:

CAS#	Chemical Name	% by Weight	TLV	LEL	Vapor Pressure
7429-90-5	Aluminum	70	N/A	30 oz/1000 ft³	N/A
64742-82-1	Mineral Spirits	17	100 ppm (8 hr TWA)	0.8% by vol.	6 mm Hg @ 41°C
64742-95-6	Solvent Naptha (petrol.) light aromatic	13	100 ppm (8 hr TWA)	0.8% by vol	<5mm Hg @ 100 F

All components of these products are listed in the TSCA inventory and on the Canadian DSL.

SECTION 3 -- PHYSICAL DATA

Boiling range (°C):	142		
Vapor density:	Heavier than air	Sp. Gravity:	1.58
Type of odor:	hydro carbon odor	Appearance:	Silver colored paste
Evaporation rate:	Slower than ether	% VOC:	35

SECTION 4 -- FIRE AND EXPLOSION DATA

Flammability Classification: OSHA: Flammable solid; DOT: Flammable Solid, Organic, NOS (Aluminum Paste), 4.1, UN1325, II
Flash Point of solvent (°C): Minimum 40 Tag Closed Cup.
Extinguishing Media: Foam, carbon dioxide, Class D Dry chemical extinguishing agent or other suitable extinguishing material such as dry sand. Do not use Class A, B, or C extinguishers or halogenated agents. Do not use water.
Unusual Fire and Explosion Hazards: Estimated flammable limits for solvent (% by volume in air): lower--0.6%; upper--7.5% vol %. Closed containers may explode when exposed to extreme heat. Water and finely divided aluminum react to form hydrogen gas. Aluminum burns at very high temperatures as a mass. If solvent has completely burned out or evaporated, any disturbance that might create a dust cloud can result in explosion. LEL of dry aluminum flake is 30 oz/1000 ft^3.
Special Fire fighting Procedures: Use supplied-air breathing equipment, if necessary, to avoid breathing solvent and decomposition products. If solvent has completely burned out and the aluminum has ignited, drum should be carefully isolated and fine dry sand placed around outside of container.

SECTION 5 -- HEALTH HAZARD DATA

Effects of Overexposure:
Eye contact--Liquid is mildly irritating to the eyes may cause irritation.
Skin contact--Liquid may cause dryness, leading to irritation or dermatitis, or aggravating existing dermatitis. Acute dermal LD50 (rabbit) of solvent is judged to be greater than 3,000 mg/kg body weight
Inhalation- - Solvent vapor is are irritating to the respiratory tract and may cause headaches, dizziness, and other central nervous system effects including death. LC50 (rat) us greater than 700 ppm (4 hours). If solvent completely burns out or evaporates, aluminum dust may be formed. TLV for aluminum dust is 10 mg/m^3 (nuisance dust).
Ingestion-- Small amounts of solvent aspirated into the lungs during ingestion or vomiting may cause pulmonary injury or possibly death. LD50 (rat) of solvent is greater than 5g/kg body weight.Primary Routes of Entry: Inhalation of solvent vapors and skin contact.

SECTION 5 (continued)

Emergency and First Aid Procedures:
Eye contact: Flush with large amounts of water for 15 minutes or until irritation subsides. If irritation persists, call physician.
Skin contact: Wash with soap and water. Remove and wash contaminated clothing. If irritation develops, seek medical attention.
Inhalation: Remove affected person to fresh air. Restore normal breathing and administer oxygen if necessary. Call physician.
Ingestion: Do not induce vomiting. Call physician immediately..

SECTION 6 -- REACTIVITY DATA

Product Stability: stable
Conditions to avoid: Heat, sparks, open flames, water, acids, alkalis, strong oxidizing agents. Avoid contact with strong oxidants, such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, magnesium metal, acetylene gas.
Hazardous decomposition products: Aluminum reacts with water, acids, and alkalis to form hydrogen gas which can explode. Incomplete combustion of solvent can form carbon monoxide, aldehydes, fumes, smoke and other hazardous decomposition products.
Hazardous polymerization: Does not occur.

SECTION 7 -- SPILL OR LEAK PROCEDURES

Procedure When Material Spilled or Released: Remove all sources of ignition. Keep people away. Ventilate area. Using spark-proof tools remove material to leak-proof container for disposal. Use absorbent material to collect excess solvent.
Waste Disposal Method: Dispose of contaminated material in approved landfill or incinerator that can accept metal containing organic material in accordance with local, state, and federal regulations.

SECTION 8 -- SPECIAL PROTECTION INFORMATION

Ventilation: Use with ventilation sufficient to prevent buildup of dangerous concentrations of solvent vapor in air. Use explosion-proof equipment. No smoking or open lights.
Protective Gloves: Use chemical resistant gloves to avoid prolonged skin contact.
Respiratory Protection: Use supplied-air respiratory protection in confined or enclosed spaces, if needed.
Eye Protection: Use chemical goggles or face shield to reduce the chance of eye contact.

SECTION 9 -- SPECIAL PRECAUTIONS

Handling and Storage: Do not store above 120 degrees F. Store in closed containers in a cool well-ventilated area. Do not store near heat, sparks, open flames, or strong oxidants. Do not reuse containers.
Other Precautions: DO NOT ALLOW MATERIAL TO EVAPORATE TO DRYNESS. Do not ingest. Avoid prolonged contact with skin, contact with eyes, and breathing vapor.

More detailed information on storage and handling of aluminum powders may be found in the Aluminum Association's brochure entitled "Recommendations for Storage and Handling of Aluminum Powders and Pastes".

The information contained in this data sheet was obtained from sources we believe are reliable but cannot guarantee. Your use of this information is beyond our control. Therefore, the information is provided without any representation or warranty.

SAFETY DATA SHEET

Revision 1.2 August 10, 2016

According to REACH, Regulation (EC) N. 1907/2006 and amendments

SECTION 1 Product and Company Identification

Product Name: **Power Punch Oil Supplements**
Chemical Name: Petroleum Lubricant
CAS#: Mixture
Synonyms: PA100, PA200, PA300, PA500, PA550

Company Identification
POWER PUNCH INC
5959 STATE HWY 303 NE, SUITE 103
BREMERTON, WA. 98311

CONTACT INFORMATION
Business Hours: 1+ 360-479-0673 (9:00AM-5:00PM PST)
FAX: 1+ 360 698-3303
Product Information: www.powerpunchinc.com

Section 2 Hazards Identification

May be harmful if swallowed. May irritate eyes and skin after prolonged exposure.

This is not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008, GHS or 1999/45/EEC

This product does not require a hazard warning label in accordance with GHC, (EC) N. 1272/2008 or 1999/45/EC

Section 3 Composition

Substance	CAS NO.	%
Hydrotreated Heavy Paraffinic Distillate	64741-54-7	<100
Ethylene Propylene Copolymer	25038-36-2	<25
Polyisobutylene	9003-27-4	<1

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000(z).

Section 4 First Aid Measures

Inhalation: Remove to fresh air. Get medical attention. If not breathing give artificial respiration. If breathing is difficult, give oxygen

Ingestion: DO NOT induce vomiting. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Skin Contact Wash with soap and water. Get medical attention if irritation develops.

Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Section 5 Fire Hazard Data

Flash Point	>200ºC (COC) >392ºF. Slightly combustible.
Thermal Decomposition	Carbon Monoxide and Asphyxiants. May release flammable vapors when heated above flash point.
Extinguishing Media	Carbon Dioxide, dry chemical or foam. Avoid using water, except for cooling container. Water may cause splattering or transport flame.
Threshold Limits	The PEL (OSHA) and the TLV (ACGIH) is 5mg/m^3 as an oil mist.
Special Fire Procedures	Recommend SCBA and Personal Protective Equipment be used.

Section 6 Accidental Release Measures

Personal Precautions	Personal protective Equipment must be worn. Keep unnecessary personnel away. Ventilate area and avoid breathing vapors or mist.
Environmental Precautions And Clean Up Methods	Spills should be contained, absorbed and containerized for disposal in accordance with local, state and federal regulations. Prevent entry to sewers and waterways.

Section 7 Handling and Storage

Handling	Avoid contact with eyes and skin, wash thoroughly after handling. Avoid breathing vapor or dust. Keep away from heat, sparks and flames.
Storage	Keep container tightly closed, in cool, well-ventilated and dry area

Section 8 Exposure Controls/Personal Protection

Ventilation	Use with adequate ventilation to control fumes
Hands	Use chemical resistant, impervious gloves
Eyes	Use safety glasses, goggles or face mask
Clothing	Long sleeve shirt is recommended
Respiratory system	Use appropriate respiratory protection if there is any potential for uncontrolled release or exposure levels are not known

Section 9 Physical and Chemical Properties

Physical State:	Liquid
Color	Amber
Odor	Petroleum Odor
Specific gravity	.919 (water=1)
Solubility	Negligible
Boiling point	>300ºC
Flammability	Combustible
Vapor Pressure	<0.01mm Hg @ 20ºC

Section 10 Stability and Reactivity

Stability:	Normally stable at ambient temperatures and pressure.
Incompatibilities	Oxidizing agents. Do not heat above flash point.
Conditions to avoid	Excessive temperatures
Hazardous Decomposition	CO, organic oxidation products
Polymerization	Will not occur.

Section 11 Toxicological Information

Sensitization	None known
Mutagenicity	Experimental evidence suggests that this products does not cause mutagenesis
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA, EU or ACGIH
Teratogenicity	None known
Reproductive Toxicity	None known

Section 12 Ecological Information

Environmental Hazards	Not Available
Fish Toxicity	Not Available
Bacteria Toxicity	Not Available

Section 13 Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations

Section 14 Transportation Information

US DOT Bulk	Not regulated, if below 100 deg C
US DOT Non-Bulk	Not regulated, if below 100 deg C
IMDG Code	Not regulated
ICAO	Not regulated
ADR/RID Hazard Class	Not regulated

Section 15 Regulatory Information

US TSCA Inventory	All components of this product are listed
Other TSCA Registries	No
SARA EXT HAZ. SUBS.	No
CERCLA	All components of this product are listed
CAL PROP 65	No

Section 16 Other Information

	Health	Fire	Reactivity	PPE
HMIS Code	1	1	0	C
NFPA Code	1	1	0	

This information is accurate and current to the best knowledge of Power Punch Inc. as of revision date.

SAFETY DATA SHEET

Revision 1.1 Nov 4, 2013

According to REACH, Regulation (EC) N. 1907/2006 and amendments

SECTION 1 Product and Company Identification

Product Name: **Power Punch Oil Supplements**
Chemical Name: Petroleum Lubricant
CAS#: Mixture
Synonyms: PA100, PA200, PA300, PA500, PA550

Company Identification
POWER PUNCH INC
5959 STATE HWY 303 NE, SUITE 103
BREMERTON, WA. 98311

CONTACT INFORMATION
Business Hours: 1+ 360-479-0673 (9:00AM-5:00PM PST)
FAX: 1+ 360 698-3303
Product Information: www.powerpunchinc.com

Section 2 Hazards Identification

May be harmful if swallowed. May irritate eyes and skin after prolonged exposure.

This is not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008, GHS or 1999/45/EEC

This product does not require a hazard warning label in accordance with GHC, (EC) N. 1272/2008 or 1999/45/EC

Section 3 Composition

Substance	CAS NO.	%
Hydrotreated Heavy Paraffinic Distillate	64741-54-7	<100
Ethylene Propylene Copolymer	25038-36-2	<25
Polyisobutylene	9003-27-4	<1

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000(z).

Section 4 First Aid Measures

Inhalation: Remove to fresh air. Get medical attention. If not breathing give artificial respiration. If breathing is difficult, give oxygen

Ingestion: DO NOT induce vomiting. Seek medical attention immediately. Never give anything by mouth to an unconscious person.

Skin Contact Wash with soap and water. Get medical attention if irritation develops.

Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Section 5 Fire Hazard Data

Flash Point	>200°C (COC) >392°F. Slightly combustible.
Thermal Decomposition	Carbon Monoxide and Asphyxiants. May release flammable vapors when heated above flash point.
Extinguishing Media	Carbon Dioxide, dry chemical or foam. Avoid using water, except for cooling container. Water may cause splattering or transport flame.
Threshold Limits	The PEL (OSHA) and the TLV (ACGIH) is 5mg/m^3 as an oil mist.
Special Fire Procedures	Recommend SCBA and Personal Protective Equipment be used.

Section 6 Accidental Release Measures

Personal Precautions	Personal protective Equipment must be worn. Keep unnecessary personnel away. Ventilate area and avoid breathing vapors or mist.
Environmental Precautions And Clean Up Methods	Spills should be contained, absorbed and containerized for disposal in accordance with local, state and federal regulations. Prevent entry to sewers and waterways.

Section 7 Handling and Storage

Handling	Avoid contact with eyes and skin, wash thoroughly after handling. Avoid breathing vapor or dust. Keep away from heat, sparks and flames.
Storage	Keep container tightly closed, in cool, well-ventilated and dry area

Section 8 Exposure Controls/Personal Protection

Ventilation	Use with adequate ventilation to control fumes
Hands	Use chemical resistant, impervious gloves
Eyes	Use safety glasses, goggles or face mask
Clothing	Long sleeve shirt is recommended
Respiratory system	Use appropriate respiratory protection if there is any potential for uncontrolled release or exposure levels are not known

Section 9 Physical and Chemical Properties

Physical State:	Liquid
Color	Amber
Odor	Petroleum Odor
Specific gravity	.919 (water=1)
Solubility	Negligible
Boiling point	>300°C
Flammability	Combustible
Vapor Pressure	<0.01mm Hg @ 20°C

Section 10 Stability and Reactivity

Stability:	Normally stable at ambient temperatures and pressure.
Incompatibilities	Oxidizing agents. Do not heat above flash point.
Conditions to avoid	Excessive temperatures
Hazardous Decomposition	CO, organic oxidation products
Polymerization	Will not occur.

Section 11 Toxicological Information

Sensitization	None known
Mutagenicity	Experimental evidence suggests that this products does not cause mutagenesis
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA, EU or ACGIH
Teratogenicity	None known
Reproductive Toxicity	None known

Section 12 Ecological Information

Environmental Hazards	Not Available
Fish Toxicity	Not Available
Bacteria Toxicity	Not Available

Section 13 Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations

Section 14 Transportation Information

US DOT Bulk	Not regulated, if below 100 deg C
US DOT Non-Bulk	Not regulated, if below 100 deg C
IMDG Code	Not regulated
ICAO	Not regulated
ADR/RID Hazard Class	Not regulated

Section 15 Regulatory Information

US TSCA Inventory	All components of this product are listed
Other TSCA Registries	No
SARA EXT HAZ. SUBS.	No
CERCLA	All components of this product are listed
CAL PROP 65	No

Section 16 Other Information

	Health	Fire	Reactivity	PPE
HMIS Code	1	1	0	C
NFPA Code	1	1	0	

This information is accurate and current to the best knowledge of Power Punch Inc. as of revision date.

Material Safety Data Sheet

Date of issue 10 November 2012
Version 17

1 . Product and company identification

Product name : POWERCRON WHITE PASTE
Code : AP202
Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : (414) 764-6000 (OAK CREEK, WI) 8:00 a.m. - 5:00 p.m. Central

2 . Hazards identification

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Keep away from heat, sparks and flame. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion : Harmful or fatal if swallowed.
Skin : Toxic in contact with skin. Irritating to skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
titanium dioxide	13463-67-7	30 - 60
2-butoxyethanol	111-76-2	10 - 30
Kaolin	1332-58-7	3 - 7
aluminium hydroxide	21645-51-2	1 - 5
1,1'-iminodipropan-2-ol	110-97-4	1 - 5
silicon dioxide	7631-86-9	0.5 - 1.5
tert-dodecanethiol	25103-58-6	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
sulfur oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120F / 49C.

8 . Exposure controls/personal protection

Name	Result	ACGIH	OSHA	Ontario	Mexico	PPG

8 . Exposure controls/personal protection

titanium dioxide	TWA	10 mg/m³	15 mg/m³ TD	10 mg/m³ TD	10 mg/m³ (as Ti)	Not established
	STEL	Not established	Not established	Not established	20 mg/m³ (as Ti)	Not established
2-butoxyethanol	TWA	20 ppm	50 ppm S	20 ppm S	26 ppm S	Not established
	STEL	Not established	Not established	Not established	75 ppm S	Not established
Kaolin	TWA	2 mg/m³ R	5 mg/m³ R 15 mg/m³ TD	2 mg/m³ R	10 mg/m³	Not established
	STEL	Not established	Not established	Not established	20 mg/m³	Not established
aluminium hydroxide	TWA	1 mg/m³	Not established	Not established	2 mg/m³	Not established
silicon dioxide	TWA	Not established	Not established	Not established	10 mg/m³ 3 mg/m³ R	Not established

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: butyl rubber

8 . Exposure controls/personal protection

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 57.22°C (135°F)
Explosion limits : Lower: 1.4%
Color : Not available.
Odor : Not available.
pH : Not available.
Boiling/condensation point : >37.78°C (>100°F)
Melting/freezing point : Not available.
Specific gravity : 1.92
Density (lbs / gal) : 16.02
Vapor pressure : 0.96 kPa (7.2 mm Hg) [room temperature]
Vapor density : Not available.
Volatility : 40% (v/v), 19.15% (w/w)
Evaporation rate : 0.44 (butyl acetate = 1)
Partition coefficient: n-octanol/water : Not available.
% Solid. (w/w) : 80.85

10 . Stability and reactivity

Stability : Stable under recommended storage and handling conditions (see Section 7).
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid : Reactive or incompatible with the following materials:,water,acids,oxidizing materials, strong alkalis
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

11 . Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
2-butoxyethanol	LD50 Oral	Rat	250 mg/kg	-
	LD50 Dermal	Rabbit	220 mg/kg	-
	LC50 Inhalation Vapor	Rat	450 ppm	4 hours
Kaolin	LD50 Oral	Rat	>5000 mg/kg	-
1,1'-iminodipropan-2-ol	LD50 Oral	Rat	4765 mg/kg	-
	LD50 Dermal	Rabbit	8000 mg/kg	-
tert-dodecanethiol	LD50 Oral	Rat	2 g/kg	-
	LD50 Dermal	Rabbit	12600 mg/kg	-
	LC50 Inhalation Vapor	Rat	>12000 mg/m³	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Defatting irritant : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Target organs : Contains material which causes damage to the following organs: lungs, brain, skin, central nervous system (CNS).
Contains material which may cause damage to the following organs: blood, kidneys, liver, lymphatic system, upper respiratory tract, eye, lens or cornea, stomach.

Carcinogenicity

Carcinogenicity : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

Classification

Product/ingredient name	ACGIH	IARC	NTP	OSHA
titanium dioxide	A4	2B	-	-
2-butoxyethanol	A3	3	-	-
Kaolin	A4	-	-	-
aluminium hydroxide	A4	-	-	-
silicon dioxide	-	3	-	-

Carcinogen Classification code:
ACGIH: A1, A2, A3, A4, A5
IARC: 1, 2A, 2B, 3, 4
NTP: Proven, Possible
OSHA: +
Not listed or regulated as a carcinogen: -

Fertility effects : Contains material which may impair female fertility, based on animal data.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol	Acute LC50 1490000 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus	96 hours
	Acute EC50 >1000 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NOEC 1000 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14 . Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Additional information
UN	1263	PAINT	3	III	-
IMDG	1263	PAINT	3	III	-
DOT	1263	PAINT	3	III	**Remarks** USA Only: Can be reclassified as Combustible Liquid. Non-Bulk highway shipments (Less than or Equal to 450Liters) can be shipped as non-regulated.

PG* : Packing group

Reportable quantity RQ : CERCLA: Hazardous substances.: 2-butoxyethanol;

15 . Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : At least one component is not listed.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : Not determined.
Korea inventory (KECI) : At least one component is not listed.
New Zealand (NZIoC) : Substance Use Restricted
Philippines inventory (PICCS) : At least one component is not listed.

United States

U.S. Federal regulations :

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: 2-butoxyethanol; titanium dioxide; Kaolin; 1,1'-iminodipropan-2-ol; aluminium hydroxide
CERCLA: Hazardous substances.: 2-butoxyethanol;

SARA 311/312 MSDS Distribution - Chemical Inventory - Hazard Identification:

15 . Regulatory information

Chemical name	CAS #	Acute	Chronic	Fire	Reactive	Pressure
titanium dioxide	13463-67-7	N	Y	N	N	N
2-butoxyethanol	111-76-2	Y	N	Y	N	N
Kaolin	1332-58-7	Y	N	N	N	N
aluminium hydroxide	21645-51-2	N	N	N	N	N
1,1'-iminodipropan-2-ol	110-97-4	Y	N	N	Y	N
silicon dioxide	7631-86-9	N	N	N	N	N
tert-dodecanethiol	25103-58-6	Y	Y	Y	N	N
	Product as-supplied :	Y	Y	Y	N	N

SARA 313	Chemical name	CAS number	Concentration
Supplier notification	: 2-butoxyethanol	111-76-2	10 - 30

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class D-1A: Material causing immediate and serious toxic effects (Very toxic). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability : 2 **Health** : 3 **Reactivity** : 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 2 **Instability** : 0

Date of previous issue : **9/28/2012.**

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

PROFESSIONAL LIME SHINE (TM) MSDS

National Laboratories
L & F Products
225 Summit Avenue
Montvale, NJ 07645

Telephone Number: (201)573-5700 (24 hrs)

Emergency Contact: CHEMTREC-for DOT emergencies only
Emergency Phone Number: (800)424-9300

SECTION #1 - IDENTIFICATION

Product: PROFESSIONAL LIME SHINE (TM)

Product Code: 09-D0146-000
Chemical Formula: 5CU-253

NFPA Hazard Rating - Health: 3 High
- Fire: 0 Negligible
- Reactivity: 0 Negligible

Special Hazards: Corrosive

Product Description: Liquid Lime Scale Remover (concentrated).

SECTION #2 - HAZARDOUS CHEMICAL COMPONENTS

Component: PHOSPHORIC ACID
CAS Number: 7664-38-2 Percent of Mixture: 36.0
ACGIH TLV-STEL: 3 mg/m3
ACGIH TLV-TWA: 1 mg/m3
OSHA PEL-TWA: 1 mg/m3

SECTION #3 - PHYSICAL DATA

Boiling Point: Not Determined°F
Vapor Pressure: Not Determined
Vapor Density (Air=1): Not Determined
Specific Gravity: 1.227
Solubility (H2O): Miscible
pH: <1.0

Appearance

Clear, green liquid

SECTION #4 - FIRE FIGHTING & EXPLOSION DATA

Flash Point: >200°F TCC

Flammability Class: NA

Lower Explosive Limit (%): Not Determined
Upper Explosive Limit (%): Not Determined

Fire and Explosion Hazards

None known.

Extinguishing Media

Use water spray, foam, dry chemical or carbon dioxide, as suitable for the surrounding fire.

Special Fire Fighting Instructions

Material Safety Data Sheet
PROFESSIONAL LIME SHINE (TM)

SECTION #4 - FIRE FIGHTING & EXPLOSION DATA Continued...

Special Fire Fighting Instructions

Wear self-contained breathing apparatus and protective clothing appropriate for fighting a typical chemical fire.

SECTION #5 - EXPOSURE EFFECTS and FIRST AID

Route of Exposure - Inhalation

None expected.

First Aid - Inhalation

None required.

Route of Exposure - Skin

Corrosive to skin. Causes skin damage.

First Aid - Skin

Flush with plenty of water. If irritation persists, get medical attention.

Route of Exposure - Eyes

Corrosive to eyes.

First Aid - Eyes

IMMEDIATELY flush eyes with plenty of water. Remove any contact lenses, and continue to flush with plenty of water for at least 15 minutes. If irritation persists, get medical attention.

Route of Exposure - Ingestion

Harmful if swallowed. Causes severe irritation of the mouth, throat and gastrointestinal tract.

First Aid - Ingestion

DO NOT INDUCE VOMITING. If person is conscious, give several glasses of water to dilute the product. Never give anything by mouth to an unconscious person. Call a physician, hospital emergency room, or poison control center. Get medical attention.

Miscellaneous Toxicological Information

Carcinogenicity: NTP: No IARC: No OSHA: No

Health Conditions Aggravated By Exposure

None Known

SECTION #6 - REACTIVITY & POLYMERIZATION N-1227-122

Stability: Stable

Conditions to Avoid (Stability)

None Known

SECTION #6 - REACTIVITY & POLYMERIZATION Continued...

Incompatible Materials

Do not mix with bleach or anything but water. Corrosive to aluminum and steel.

Hazardous Decomposition Products

None Known

Hazardous Polymerization: Will Not Occur

SECTION #7 - SPILL, LEAK, & DISPOSAL PROCEDURES

Steps to be Taken in The Event of Spills, Leaks, or Release

Dilute with large amounts of water and dispose in sewer system.

Waste Disposal Methods

Dispose of in accordance with federal, state and local regulations.

SARA Title III Notifications and Information

SARA Title III - Section 313 Supplier Notification:

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

CAS #	Chemical Name	Percent of Mixture
7664-38-2	PHOSPHORIC ACID	36.0

This information must be included on all MSDSs that are copied and distributed for this material.

SECTION #8 - SPECIAL PROTECTIVE MEASURES

Ventilation

None required.

Eye Protection

Wear safety glasses, goggles or face shield to prevent contact with the eyes.

Skin Protection

Wear rubber or plastic gloves and other protective clothing as required to prevent skin contact.

Respiratory Protection

None required.

SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING

Storage & Handling Conditions

Label Copy:

SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING Continued...

Storage & Handling Conditions

DANGER: CORROSIVE. Injurious to eyes. Causes skin damage. Harmful if swallowed. Contains phosphoric acid. Avoid contact with eyes and skin. Wear eye protection and rubber gloves when handling. Do not take internally. KEEP OUT OF REACH OF CHILDREN.

SECTION #10 - SHIPPING INFORMATION

Proper Shipping Name: Consumer Commodity - ORM-D

Hazard Class: ORM-D
DOT Shipping Label: None

DOT B/L Description: Compounds, Cleaning, Liquid or Soap, NOI

SECTION #11 - OTHER INFORMATION

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT:

NAME	CAS #
WATER	7732-18-5
PHOSPHORIC ACID	7664-38-2
POLOXAMER 182 LF	9003-11-6
XYLENE BLUE	125-31-5

SAFETY DATA SHEET

Propane

Section 1. Identification

GHS product identifier : Propane

Chemical name : propane

Other means of identification : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

Product use : Synthetic/Analytical chemistry.

Synonym : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

SDS # : 001045

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause frostbite.
May form explosive mixtures in Air.
May displace oxygen and cause rapid suffocation.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage : Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.

Section 2. Hazards identification

Disposal : Not applicable.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : propane

Other means of identification : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

CAS number/other identifiers

CAS number : 74-98-6

Product code : 001045

Ingredient name	%	CAS number
Propane	100	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Section 4. First aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Section 6. Accidental release measures

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [Liquefied compressed gas.]

Color : Colorless.

Molecular weight : 44.11 g/mole

Molecular formula : C3-H8

Boiling/condensation point : -161.48°C (-258.7°F)

Melting/freezing point : -187.6°C (-305.7°F)

Critical temperature : 96.55°C (205.8°F)

Odor : Odorless.BUT MAY HAVE SKUNK ODOR ADDED.

Odor threshold : Not available.

pH : Not available.

Flash point : Closed cup: -104°C (-155.2°F)
Open cup: -104°C (-155.2°F)

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.

Lower and upper explosive (flammable) limits : Lower: 1.8%
Upper: 8.4%

Vapor pressure : 109 (psig)

Vapor density : 1.6 (Air = 1)

Section 9. Physical and chemical properties

Specific Volume (ft ^{3}/lb) : 8.6206

Gas Density (lb/ft ^{3}) : 0.116 (25°C / 77 to °F)

Relative density : Not applicable.

Solubility : Not available.

Solubility in water : 0.0244 g/l

Partition coefficient: n-octanol/water : 1.09

Auto-ignition temperature : 287°C (548.6°F)

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Oxidizers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

IDLH : 2100 ppm

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Propane	1.09	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1978	UN1978	UN1978	UN1978	UN1978
UN proper shipping name	PROPANE	PROPANE	PROPANE	PROPANE	PROPANE
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: Forbidden. **Cargo aircraft** Quantity limitation: 150 kg **Special provisions** 19, T50	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). **Explosive Limit and Limited Quantity Index** 0.125 **ERAP Index** 3000	-	-	**Passenger and Cargo Aircraft** Quantity limitation: 0 Forbidden **Cargo Aircraft Only** Quantity limitation: 150 kg

Section 14. Transport information

		Passenger Carrying Ship Index 65 **Passenger Carrying Road or Rail Index** Forbidden **Special provisions** 29, 42			

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act (CAA) 112 regulated flammable substances: propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Propane	100	Yes.	Yes.	No.	No.	No.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

Section 15. Regulatory information

New Jersey : This material is listed.

Pennsylvania : This material is listed.

International regulations

International lists

National inventory

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : This material is listed or exempted.

Malaysia : This material is listed or exempted.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Canada

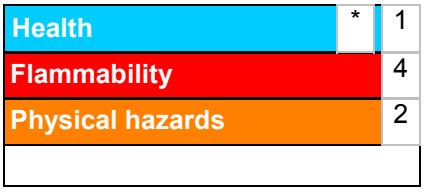
WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.

CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.
Class B-1: Flammable gas.

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Flam. Gas 1, H220 Press. Gas Liq. Gas, H280	Expert judgment Expert judgment

History

Date of printing : 10/20/2015

Date of issue/Date of revision : 10/20/2015

Date of previous issue : No previous validation

Version : 0.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Other special considerations : The information below is given to call attention to the issue of “Naturally occurring radioactive materials”. Although Radon-222 levels in the product represented by this MSDS do not present any direct Radon exposure hazard, customers should be aware of the potential for Radon daughter build up within their processing systems, whatever the source of their product streams. Radon-222 is a naturally occurring radioactive gas which can be a contaminant in natural gas. During subsequent processing , Radon tends to be concentrated in Liquefied Petroleum Gas streams and in product streams having a similar boiling point range. Industry experience has shown that this product may contain small amounts of Radon-222 and its radioactive decay products, called Radon “daughters”. The actual concentration of Radon-222 and radioactive daughters in the delivered product is dependent on the geographical source of the natural gas and storage time prior to delivery. Process equipment (i.e. lines, filters, pumps and reaction units) may accumulate significant levels of radioactive daughters and show a gamma radiation reading during operation. A potential external radiation hazard exists at or near any pipe valve or vessel containing a Radon enriched stream, or containing internal deposits of radioactive material due to the transmission of gamma radiation through its wall. Field studies reported in the literature have not shown any conditions that subject workers to cumulative exposures in excess of general population limits. Equipment emitting gamma radiation should be presumed to be internally contaminated with alpha emitting decay products which may be a hazard if inhaled or ingested. Protective equipment such as coveralls, gloves, and respirator (NIOSH/MHSA approved for high efficiency particulates and radionuclides, or supplied air) should be worn by personnel entering a vessel or working on contaminated process equipment to prevent skin contamination, ingestion, or inhalation of any residues containing alpha radiation. Airborne contamination may be minimized by handling scale and/or contaminated materials in a wet state.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Pyroil™
STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304	77.53

		Aquatic Acute 2; H401 Aquatic Chronic 2; H411	
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	19.55
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	3.10
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.17
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.29
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361	0.13

		STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)

Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects. Keep container tightly closed in a dry and well-ventilated

place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm	NIOSH/GUID

			9,000 mg/m3	E
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled

release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : aerosol

Odour : No data available

Odour Threshold : No data available

pH : No data available

: No data available

Boiling point/boiling range : 94.3 °F / 34.6 °C
(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : -49 °F / -45 °C
Calculated Flash Point

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 36.5 %(V)
Calculated Explosive Limit

Lower explosion limit : 1.05 %(V)
Calculated Explosive Limit

Vapour pressure : 717.2616 hPa (25 °C)
Calculated Vapor Pressure

Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.7114 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. excessive heat
Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide

formaldehyde-like
Hydrocarbons
organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Acute oral toxicity : LD 50 (Rat): > 8,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 3400 ppm
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER**:**
Acute oral toxicity : LD50 (Rat): 1,200 - 1,700 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 32,000 mg/l
Exposure time: 4 h

n-HEPTANE**:**
Acute oral toxicity : LD 50 (Rat): Expected > 5,000 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC 50 (Rat, male and female): > 29.29 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l

Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE:
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
Result: Mildly irritating to skin

ETHYL ETHER:
Result: Irritating to skin

n-HEPTANE:
Result: Irritating to skin

CARBON DIOXIDE:
Result: Not irritating to skin

ETHANOL:
Result: Slightly irritating to skin

ETHYL CHLORIDE:
Result: Mildly irritating to skin

TOLUENE:
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE:
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER:
Assessment: May cause drowsiness or dizziness.

n-HEPTANE:
Assessment: May cause drowsiness or dizziness.

ETHANOL:
Assessment: May cause drowsiness or dizziness.

TOLUENE:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE:
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Product:
May be fatal if swallowed and enters airways.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
May be fatal if swallowed and enters airways.

n-HEPTANE:
May be fatal if swallowed and enters airways.

TOLUENE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

ETHANOL**:**

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

ETHYL CHLORIDE**:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): 58 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.3.

TOLUENE**:**

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
Exposure time: 48 h
Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
End point: Growth inhibition
Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
End point: Growth inhibition
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability : Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.

Biodegradation: 0 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**

Biodegradability : Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**

Partition coefficient: n-octanol/water : log Pow: 0.89

n-HEPTANE**:**

Partition coefficient: n-octanol/water : log Pow: 4.66

ETHANOL**:**

Partition coefficient: n-octanol/water : log Pow: -0.31

ETHYL CHLORIDE**:**

Partition coefficient: n-octanol/water : log Pow: 1.43

TOLUENE**:**

Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)
Bioconcentration factor (BCF): 94
Exposure time: 3 d
Concentration: 0.05 mg/l
Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1950	Aerosols	2.1		LIMITED QUANTITY

CFR_RAIL_C

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1		LIMITED QUANTITY

TDG_ROAD_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TDG_RAIL_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TDG_INWT_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

MX_DG

UN	1950	AEROSOLES	2

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	511.380779

SARA 311/312 Hazards : Chronic Health Hazard
Fire Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Component(s)SARA 313

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

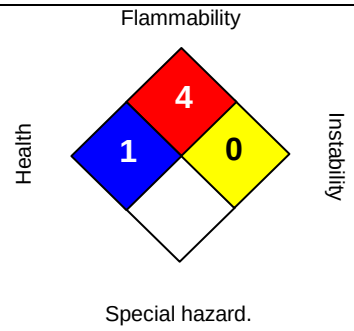
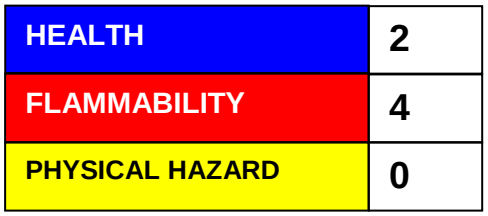
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2016

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Pyroil™
STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304	77.53

		Aquatic Acute 2; H401 Aquatic Chronic 2; H411	
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	19.55
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	3.10
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.17
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.29
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361	0.13

		STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)

Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects. Keep container tightly closed in a dry and well-ventilated

place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm	NIOSH/GUID

			9,000 mg/m3	E
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled

release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : aerosol

Odour : No data available

Odour Threshold : No data available

pH : No data available

: No data available

Boiling point/boiling range : 94.3 °F / 34.6 °C
(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : -49 °F / -45 °C
Calculated Flash Point

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 36.5 %(V)
Calculated Explosive Limit

Lower explosion limit : 1.05 %(V)
Calculated Explosive Limit

Vapour pressure : 717.2616 hPa (25 °C)
Calculated Vapor Pressure

Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.7114 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. excessive heat
Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide

formaldehyde-like
Hydrocarbons
organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Acute oral toxicity : LD 50 (Rat): > 8,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 3400 ppm
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER**:**
Acute oral toxicity : LD50 (Rat): 1,200 - 1,700 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 32,000 mg/l
Exposure time: 4 h

n-HEPTANE**:**
Acute oral toxicity : LD 50 (Rat): Expected > 5,000 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC 50 (Rat, male and female): > 29.29 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l

Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE:
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
Result: Mildly irritating to skin

ETHYL ETHER:
Result: Irritating to skin

n-HEPTANE:
Result: Irritating to skin

CARBON DIOXIDE:
Result: Not irritating to skin

ETHANOL:
Result: Slightly irritating to skin

ETHYL CHLORIDE:
Result: Mildly irritating to skin

TOLUENE:
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE:
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER:
Assessment: May cause drowsiness or dizziness.

n-HEPTANE:
Assessment: May cause drowsiness or dizziness.

ETHANOL:
Assessment: May cause drowsiness or dizziness.

TOLUENE:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE:
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Product:
May be fatal if swallowed and enters airways.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
May be fatal if swallowed and enters airways.

n-HEPTANE:
May be fatal if swallowed and enters airways.

TOLUENE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

ETHANOL**:**

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

ETHYL CHLORIDE**:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): 58 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.3.

TOLUENE**:**

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
Exposure time: 48 h
Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
End point: Growth inhibition
Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
End point: Growth inhibition
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability : Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.

Biodegradation: 0 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**

Biodegradability : Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**

Partition coefficient: n-octanol/water : log Pow: 0.89

n-HEPTANE**:**

Partition coefficient: n-octanol/water : log Pow: 4.66

ETHANOL**:**

Partition coefficient: n-octanol/water : log Pow: -0.31

ETHYL CHLORIDE**:**

Partition coefficient: n-octanol/water : log Pow: 1.43

TOLUENE**:**

Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)
Bioconcentration factor (BCF): 94
Exposure time: 3 d
Concentration: 0.05 mg/l
Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - RAIL

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1		LIMITED QUANTITY

TRANSPORT CANADA - ROAD

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TRANSPORT CANADA - RAIL

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TRANSPORT CANADA - INLAND WATERWAYS

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1950	AEROSOLES	2

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	511.380779

SARA 311/312 Hazards : Chronic Health Hazard
Fire Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Component(s)SARA 313

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

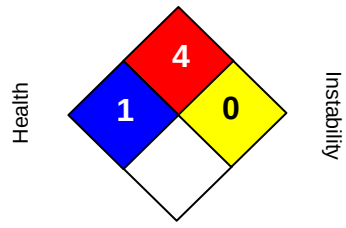
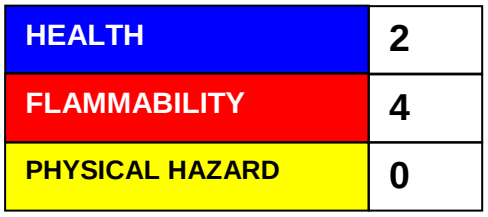
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 08/01/2015

NFPA:	**HMIS III:**
Flammability  Special hazard.	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Pyroil™
STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304	77.53

		Aquatic Acute 2; H401 Aquatic Chronic 2; H411	
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	19.55
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	3.10
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.17
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.29
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361	0.13

		STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)

Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects. Keep container tightly closed in a dry and well-ventilated

place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm	NIOSH/GUID

			9,000 mg/m3	E
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled

release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : aerosol

Odour : No data available

Odour Threshold : No data available

pH : No data available

: No data available

Boiling point/boiling range : 94.3 °F / 34.6 °C
(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : -49 °F / -45 °C
Calculated Flash Point

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 36.5 %(V)
Calculated Explosive Limit

Lower explosion limit : 1.05 %(V)
Calculated Explosive Limit

Vapour pressure : 717.2616 hPa (25 °C)
Calculated Vapor Pressure

Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.7114 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. excessive heat
Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide

formaldehyde-like
Hydrocarbons
organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Acute oral toxicity : LD 50 (Rat): > 8,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 3400 ppm
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER**:**
Acute oral toxicity : LD50 (Rat): 1,200 - 1,700 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 32,000 mg/l
Exposure time: 4 h

n-HEPTANE**:**
Acute oral toxicity : LD 50 (Rat): Expected > 5,000 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC 50 (Rat, male and female): > 29.29 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l

Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE:
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
Result: Mildly irritating to skin

ETHYL ETHER:
Result: Irritating to skin

n-HEPTANE:
Result: Irritating to skin

CARBON DIOXIDE:
Result: Not irritating to skin

ETHANOL:
Result: Slightly irritating to skin

ETHYL CHLORIDE:
Result: Mildly irritating to skin

TOLUENE:
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE:
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER:
Assessment: May cause drowsiness or dizziness.

n-HEPTANE:
Assessment: May cause drowsiness or dizziness.

ETHANOL:
Assessment: May cause drowsiness or dizziness.

TOLUENE:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE:
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Product:
May be fatal if swallowed and enters airways.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
May be fatal if swallowed and enters airways.

n-HEPTANE:
May be fatal if swallowed and enters airways.

TOLUENE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

ETHANOL**:**

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

ETHYL CHLORIDE**:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): 58 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.3.

TOLUENE**:**

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
Exposure time: 48 h
Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
End point: Growth inhibition
Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
End point: Growth inhibition
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability : Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.

Biodegradation: 0 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**

Biodegradability : Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**

Partition coefficient: n-octanol/water : log Pow: 0.89

n-HEPTANE**:**

Partition coefficient: n-octanol/water : log Pow: 4.66

ETHANOL**:**

Partition coefficient: n-octanol/water : log Pow: -0.31

ETHYL CHLORIDE**:**

Partition coefficient: n-octanol/water : log Pow: 1.43

TOLUENE**:**

Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)
Bioconcentration factor (BCF): 94
Exposure time: 3 d
Concentration: 0.05 mg/l
Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1950	Aerosols	2.1		LIMITED QUANTITY

CFR_RAIL_C

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1		LIMITED QUANTITY

TDG_ROAD_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TDG_RAIL_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TDG_INWT_C

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

MX_DG

UN	1950	AEROSOLES	2

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	511.380779

SARA 311/312 Hazards : Chronic Health Hazard
Fire Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Component(s)SARA 313

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

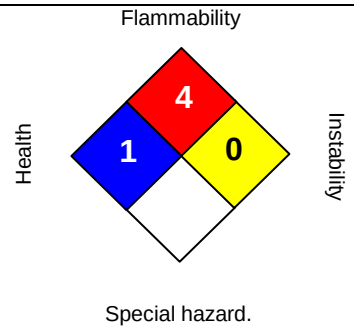
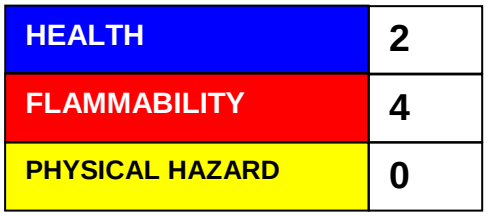
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2016

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Pyroil™
STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number**
Niteo Products, LLC P.O. Box 191629 Dallas TX 75219 United States of America	CHEMTREC DIRECT 1-800-424-9300 **Product Information** 1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable aerosols	:	Category 1
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Central nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Extremely flammable aerosol.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304	77.53

		Aquatic Acute 2; H401 Aquatic Chronic 2; H411	
ETHYL ETHER	60-29-7	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	19.55
n-HEPTANE	142-82-5	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304	3.10
CARBON DIOXIDE	124-38-9	Press. Gas Liquefied gas; H280	2.01
ETHANOL	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336	1.17
ETHYL CHLORIDE	75-00-3	Flam. Gas 1; H220 Carc. 2; H351	0.29
TOLUENE	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Repr. 2; H361	0.13

		STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious place in recovery position and seek medical advice. Consult a physician after significant exposure.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Obtain medical attention. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)

Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Aldehydes
carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Other information	:	Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapours/mists with a water spray jet.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Open drum carefully as content may be under pressure. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Take precautionary measures against static discharges. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Container may be opened only under exhaust ventilation hood.
Conditions for safe storage	:	BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects. Keep container tightly closed in a dry and well-ventilated

place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TOLUENE	108-88-3	TWA	20 ppm	ACGIH
		REL	100 ppm 375 mg/m3	NIOSH/GUIDE
		STEL	150 ppm 560 mg/m3	NIOSH/GUIDE
		TWA	200 ppm	OSHA/Z2
		Ceiling	300 ppm	OSHA/Z2
		MAX. CONC	500 ppm	OSHA/Z2
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	TWA	500 ppm	OSHA_TRANS
		TWA	300 ppm	ACGIH
		TWA	2,000 mg/m3	OSHA_TRANS
		TWA	1,370 mg/m3	ACGIH
ETHYL ETHER	60-29-7	TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
		PEL	400 ppm 1,200 mg/m3	OSHA_TRANS
		TWA	400 ppm 1,200 mg/m3	TN OEL
		STEL	500 ppm 1,500 mg/m3	TN OEL
n-HEPTANE	142-82-5	REL	85 ppm 350 mg/m3	NIOSH/GUIDE
		Ceil_Time	440 ppm 1,800 mg/m3	NIOSH/GUIDE
		PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
CARBON DIOXIDE	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		REL	5,000 ppm	NIOSH/GUID

			9,000 mg/m3	E
		STEL	30,000 ppm 54,000 mg/m3	NIOSH/GUIDE
		PEL	5,000 ppm 9,000 mg/m3	OSHA_TRANS
ETHANOL	64-17-5	REL	1,000 ppm 1,900 mg/m3	NIOSH/GUIDE
		PEL	1,000 ppm 1,900 mg/m3	OSHA_TRANS
		STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	Z1A
ETHYL CHLORIDE	75-00-3	TWA	100 ppm	ACGIH
		PEL	1,000 ppm 2,600 mg/m3	OSHA_TRANS
		TWA	1,000 ppm 2,600 mg/m3	Z1A

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
TOLUENE	108-88-3	o-Cresol, with hydrolysis	Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	
Remarks:	Background					
		toluene	Urine	Sampling time: End of shift.	0.03 mg/l	
		toluene	Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
In the case of dust or aerosol formation use respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled

release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : aerosol

Odour : No data available

Odour Threshold : No data available

pH : No data available

: No data available

Boiling point/boiling range : 94.3 °F / 34.6 °C
(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : -49 °F / -45 °C
Calculated Flash Point

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 36.5 %(V)
Calculated Explosive Limit

Lower explosion limit : 1.05 %(V)
Calculated Explosive Limit

Vapour pressure : 717.2616 hPa (25 °C)
Calculated Vapor Pressure

Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.7114 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. excessive heat
Incompatible materials	:	Acids Alkali metals Ammonia Bases halogens inorganic materials Oxidizing agents sodium Sulphur compounds
Hazardous decomposition products		Aldehydes carbon dioxide and carbon monoxide

formaldehyde-like
Hydrocarbons
organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Acute oral toxicity : LD 50 (Rat): > 8,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 3400 ppm
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD 50 (Rat): > 4,000 mg/kg

ETHYL ETHER**:**
Acute oral toxicity : LD50 (Rat): 1,200 - 1,700 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 32,000 mg/l
Exposure time: 4 h

n-HEPTANE**:**
Acute oral toxicity : LD 50 (Rat): Expected > 5,000 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC 50 (Rat, male and female): > 29.29 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

ETHANOL**:**
Acute oral toxicity : LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l

Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD Lo (Rabbit): 20 g/kg

ETHYL CHLORIDE:
Acute inhalation toxicity : LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

TOLUENE:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD 50 (Rabbit): 12,124 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
Result: Mildly irritating to skin

ETHYL ETHER:
Result: Irritating to skin

n-HEPTANE:
Result: Irritating to skin

CARBON DIOXIDE:
Result: Not irritating to skin

ETHANOL:
Result: Slightly irritating to skin

ETHYL CHLORIDE:
Result: Mildly irritating to skin

TOLUENE:
Result: Irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC**:**
Result: Mildly irritating to eyes

ETHYL ETHER**:**
Result: Severely irritating to eyes

n-HEPTANE**:**
Result: Mildly irritating to eyes

CARBON DIOXIDE**:**
Result: Not irritating to eyes

ETHANOL**:**
Result: Irritating to eyes

ETHYL CHLORIDE**:**
Result: Mildly irritating to eyes

TOLUENE**:**
Result: Irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
n-HEPTANE**:**
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not classified based on available information.
Components:
n-HEPTANE**:**

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Test species: rat hepatocytes Method: OECD Test Guideline 473 Result: negative
	:	Test Type: Ames test Method: OECD Test Guideline 471 Result: negative

Carcinogenicity
Suspected of causing cancer.
Components:
ETHYL CHLORIDE**:**

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
TOLUENE:
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.
Components:
ETHYL ETHER:
Assessment: May cause drowsiness or dizziness.

n-HEPTANE:
Assessment: May cause drowsiness or dizziness.

ETHANOL:
Assessment: May cause drowsiness or dizziness.

TOLUENE:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.
Components:
TOLUENE:
Exposure routes: Inhalation
Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.
Product:
May be fatal if swallowed and enters airways.

Components:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
May be fatal if swallowed and enters airways.

n-HEPTANE:
May be fatal if swallowed and enters airways.

TOLUENE:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

Components:
ETHYL CHLORIDE**:**
Remarks: Liver

Remarks: Central nervous system

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

n-HEPTANE**:**

Toxicity to daphnia and other aquatic invertebrates	:	EC 50 (Water flea (Daphnia magna)): 1.5 mg/l Exposure time: 48 h Test Type: static test LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Water flea (Daphnia magna)): 1 mg/l Exposure time: 21 d Test Type: static test Test substance: WAF Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Ecotoxicology Assessment Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

ETHANOL**:**

Toxicity to fish	:	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

ETHYL CHLORIDE**:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Daphnia magna)): 58 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.3.

TOLUENE**:**

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
Exposure time: 48 h
Remarks: Mortality

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
End point: Growth inhibition
Exposure time: 96 h

NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
End point: Growth inhibition
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
Exposure time: 7 d

Persistence and degradability

n-HEPTANE**:**

Biodegradability : Result: Readily biodegradable

ETHYL CHLORIDE**:**

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.

Biodegradation: 0 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.E.

TOLUENE**:**
Biodegradability : Result: Readily biodegradable

Bioaccumulative potential

ETHYL ETHER**:**
Partition coefficient: n-octanol/water : log Pow: 0.89

n-HEPTANE**:**
Partition coefficient: n-octanol/water : log Pow: 4.66

ETHANOL**:**
Partition coefficient: n-octanol/water : log Pow: -0.31

ETHYL CHLORIDE**:**
Partition coefficient: n-octanol/water : log Pow: 1.43

TOLUENE**:**
Bioaccumulation : Species: Ide, silver or golden orfe (Leuciscus idus)
Bioconcentration factor (BCF): 94
Exposure time: 3 d
Concentration: 0.05 mg/l
Method: Not reported

Partition coefficient: n-octanol/water : log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - RAIL

UN	1950	Aerosols	2.1		LIMITED QUANTITY

U.S. DOT - INLAND WATERWAYS

UN	1950	Aerosols	2.1		LIMITED QUANTITY

TRANSPORT CANADA - ROAD

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TRANSPORT CANADA - RAIL

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

TRANSPORT CANADA - INLAND WATERWAYS

UN	1950	AEROSOLS	2.1		LIMITED QUANTITY

INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1950	AEROSOLS	2.1	MARINE POLLUTANT:(ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1950	Aerosols, flammable (engine starting fluid)	2.1

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1950	AEROSOLES	2

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYL ETHER	60-29-7	100	511.380779

SARA 311/312 Hazards : Chronic Health Hazard
Fire Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Component(s)SARA 313

Pennsylvania Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %

New Jersey Right To Know

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	70.00 - 90.00 %
ETHYL ETHER	60-29-7	10.00 - 20.00 %
n-HEPTANE	142-82-5	1.00 - 5.00 %
CARBON DIOXIDE	124-38-9	1.00 - 5.00 %
ETHANOL	64-17-5	1.00 - 5.00 %
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC	64742-53-6	0.10 - 1.00 %
TOLUENE	108-88-3	0.10 - 1.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

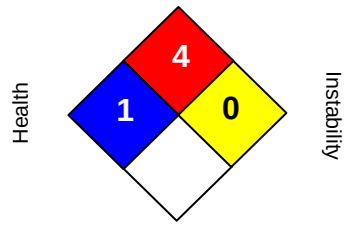
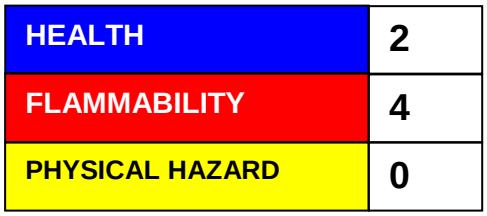
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 08/01/2015

NFPA:	**HMIS III:**
Flammability  Special hazard.	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.

H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H333	May be harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo's Environmental Health and Safety Department (1-844-696-4836).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

M A T E R I A L S A F E T Y D A T A S H E E T

I. IDENTIFICATION

MANUFACTURED BY: Diamond Vogel Paint
1506 Bluff Road
Burlington, IA 52601-0247

24 Hour Emergency Telephone
CHEMTREC 1-800-424-9300

REVISED: 03/01/2010
PRINTED: 03/07/2010

General Information:
Mon-Fri 8 AM - 5 PM
712-737-4993

PRODUCT LINE: Quick Line White Traffic L/F

TM-1575 Quick Line White Traffic
TM-3575 Quick Line Yellow Traffic

II. HAZARDOUS INGREDIENTS

CAS #14807-96-6 Talc (powder) WT %: 5-20
ACGIH TLV: 2 mg/m3 TWA (resp) ACGIH STEL:
OSHA PEL: 20 mppcf TWA OSHA CEILING: OSHA PEAK:
VAPOR PRESSURE: LEL%:

CAS #67-64-1 Acetone WT %: 5-20 Footnote: (1)
ACGIH TLV: 500 ppm TWA ACGIH STEL: 1000 ppm
OSHA PEL: 1000 ppm TWA OSHA CEILING: OSHA PEAK:
VAPOR PRESSURE: 185mm Hg60F LEL%: 2.6%

CAS #108-88-3 Toluene WT %: 5-20 Footnote: (1)
ACGIH TLV: 50 ppm TWA ACGIH STEL:
OSHA PEL: 200 ppm TWA OSHA CEILING: 300 ppm OSHA PEAK: 500 ppm
VAPOR PRESSURE: 23.0 mm Hg LEL%: 1.3

CAS #64742-89-8 V M & P WT %: 5-20 Footnote: (1)
ACGIH TLV: 300 ppm TWA ACGIH STEL: 400 ppm
OSHA PEL: 300 ppm TWA OSHA CEILING: OSHA PEAK:
VAPOR PRESSURE: 10.2mmHg68F LEL%: 0.9%

CAS #142-82-5 Heptane WT %: 0-10 Footnote: (1)
ACGIH TLV: 400 ppm TWA ACGIH STEL: 500 ppm
OSHA PEL: 500 ppm TWA OSHA CEILING: OSHA PEAK:
VAPOR PRESSURE: 45mmHg@20C LEL%: 1.2

CAS #100-41-4 Ethyl Benzene WT %: .4-.5 Footnote: (2)
ACGIH TLV: 100 ppm ACGIH STEL: 125 ppm
OSHA PEL: 100 ppm OSHA CEILING: NE OSHA PEAK: NE
VAPOR PRESSURE: 10 mmHg@20C LEL%: 1

CAS #14808-60-7 Crystalline Silica WT %: .3-.4 Footnote: (3)
ACGIH TLV: 0.025 mg/m3 ACGIH STEL: NE
OSHA PEL: 10/(%SiO2+2) mg/m3 OSHA CEILING: NE OSHA PEAK: NE
VAPOR PRESSURE: NA LEL%: NA

WARNING MESSAGES:
(1) Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Chronic exposure may cause damage to the central nervous system, respiratory system, lung, eye, skin, liver, gastrointestinal tract, spleen, kidneys, and blood.

(2) International Agency for Research on Cancer (IARC) Monograph Volume 77 (2000) concluded that Ethylbenzene is "possibly carcinogenic to humans (Group 2B)" based on inadequate evidence in humans and sufficient evidence in experimental animals.
(3) International Agency for Research on Cancer (IARC) Monograph Volume 68 (1997) concludes that Crystalline Silica is "carcinogenic to humans (Group 1)" based on sufficient evidence in humans and experimental animals.
(4) See Section IX for reportable Hazardous Air Pollutants.

III. PHYSICAL DATA

BOILING RANGE: 133-300° F

EVAPORATION RATE: * slower than ether *

PERCENT VOLATILE BY VOLUME: 46.17-49.95% WEIGHT PER GALLON: 11.67-12.35 LBS

VAPOR DENSITY: * heavier than air *

ACTUAL VOC (lb/gal): 1.89 - 2.34
EPA VOC (lb/gal): 2.31 - 2.72 EPA VOC (g/L): 276.83-325.96

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: -17° C 1° F LEL: Refer to Section II

FLAMMABILITY CLASSIFICATION: CLASS 1B

HAZARD CLASSIFICATION: *Flammable Liquid

EXTINGUISHING MEDIA: *carbon dioxide, dry chemical, or fire foam*

UNUSUAL FIRE AND EXPLOSION HAZARDS: With excessive heat, cans will rupture from internal pressure and discharge flammable contents. Vapors may ignite explosively. Keep away from heat, sparks and flame. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent build up of vapors by opening all windows and doors to achieve cross-ventilation.

SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF OVEREXPOSURE:

Acute - High vapor concentrations are irritating to the eyes and the repiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

Chronic - This product contains ethylbenzene, which has been classified as a possible carcinogen to humans, Group 2B, by the International Agency for Research on Cancer (IARC), based on sufficient evidence in laboratory animals, but inadequate evidence for cancer in humans. Prolonged or repeated overexposure to ethylbenzene may cause the following: kidney effects, liver effects, lung effects, thyroid effects, testicular effects, pituitary effects.

This product also contains crystalline silica which is classified by IARC to be a Group 1 carcinogen. This category is used when there is sufficient evidence of carcinogenicity in humans. Crystalline silica may also cause delayed respiratory disease (silicosis) if inhaled over a long period of time. Avoid breathing dust. Use NIOSH/MSHA approved respirator when TLV for crystalline silica may be exceeded.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Eye disease, Skin disorders and Allergies

PRIMARY ROUTE(S) OF ENTRY: Eyes, Ingestion, Skin, Inhalation

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. Restore breathing. Treat symptomatically. Consult a physician.

EYES: Flush immediately with large amounts of water for at least 15 minutes. Talk to a physician for medical treatment.

SKIN: Wipe off with towel. Wash with soap and water. Remove contaminated clothing.

INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a medical personnel. Never give anything by mouth to an unconscious person.

VI. REACTIVITY DATA

STABILITY: *stable* HAZARDOUS POLYMERIZATION: *will not occur*

INCOMPATIBILITY: oxidizing agents, halogens, strong reducing agents and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Fire, burning and welding may generate carbon monoxide.
CONDITIONS TO AVOID: Fire, burning, and welding.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Use non-sparking tools. Remove with inert absorbant.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
If air concentrations above the TLV are possible, wear a NIOSH/MSHA approved respirator.

VENTILATION: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV and LEL of most hazardous ingredient in Section II, below acceptable limit.

PROTECTIVE GLOVES: Permeation resistant gloves (butyl rubber, nitrile rubber) should be used. Cover as much of the exposed skin area as possible with appropriate clothing.

EYE PROTECTION:
Splash proof eye goggles. In emergency situations, use eye goggles with a full face shield.

OTHER PROTECTIVE EQUIPMENT: Protective clothing such as coveralls or lab coats must be worn.

HYGIENIC PRACTICES: See Section V

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:
Keep away from heat. Keep away from sparks, flames and other sources of ignition. Store in a cool, dry place. Keep container closed when not in use. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use with adequate ventilation. Ground and bond containers when transferring material. Use explosion proof equipment. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. Wash thoroughly after handling.

OTHER PRECAUTIONS: * none *

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Ingredient	CAS #	Wt% of HAPS in product	Pounds HAPS/ Gal product
Toluene	108-88-3	6.0 %	0.7

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: R-O 6X405G LEAKSEAL CLEAR

Revision Date: 8/6/2015

Product Identifier: 266289

Supercedes Date: 3/9/2015

Product Use/Class: Leak Sealer/Aerosols

Supplier: Rust-Oleum Consumer Brands Canada (RCBC)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Manufacturer: Rust-Oleum Consumer Brands Canada (RCBC)
200 Confederation Parkway
Concord, ON L4K 4T8
Canada

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
81% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects. Classified as mutagenic Category 1 if one ingredient is present at or above 0.1%. Applies to liquids, solids (w/w units) and gases (v/v). The substance may also have its own exposure limit. Routes of exposure are dependent on ingredient form.
Carcinogenicity, category 1B	H350	May cause cancer. Classified as carcinogenic Category 1 on the basis of epidemiological and/or animal data. Mixtures are classified as carcinogenic when at least 1 ingredient has been classified as carcinogenic and is present at 0.1% or above Routes of exposure are dependent on ingredient form.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing dust, fumes, gases, mists, vapors, or spray.
P281	Use personal protective equipment as required.
P308+P313	IF exposed or concerned: Get medical advice/attention.

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Aliphatic Hydrocarbon	64742-89-8	25-50	GHS08	H304-340-350
Propane	74-98-6	10-25	No Information	No Information
n-Butyl Acetate	123-86-4	10-25	GHS02-GHS07	H226-336
n-Butane	106-97-8	2.5-10	No Information	No Information
Xylene (mixed isomers)	1330-20-7	2.5-10	GHS02-GHS07	H226-312-315-332
Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07	H225-332
N-Methyl 2-Pyrrolidone	872-50-4	0.1-1.0	GHS06	H315-319-331-335

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only in a well-ventilated area. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep away from heat, sparks, flame and sources of ignition. Contents under pressure. Do not expose to heat or store above 120 ° F. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Aliphatic Hydrocarbon	64742-89-8	40.0	N.E.	N.E.	N.E.	N.E.
Propane	74-98-6	20.0	1000 ppm	N.E.	1000 ppm	N.E.
n-Butyl Acetate	123-86-4	15.0	150 ppm	200 ppm	150 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Xylene (mixed isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	N.E.	100 ppm	N.E.
N-Methyl 2-Pyrrolidone	872-50-4	1.0	N.E.	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.717	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	None	**Partition Coefficient, n-octanol/water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-24 - 537	**Explosive Limits, vol%:**	0.9 - 10.4
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation. Allergic reactions are possible. Prolonged or repeated contact may cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-89-8	Aliphatic Hydrocarbon	N.I.	3000 mg/kg Rabbit	N.I.
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
123-86-4	n-Butyl Acetate	N.I.	>17600 mg/kg Rabbit	N.I.
106-97-8	n-Butane	N.I.	N.I.	658 mg/L Rat
1330-20-7	Xylene (mixed isomers)	4300 mg/kg Rat	N.I.	47635 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat
872-50-4	N-Methyl 2-Pyrrolidone	3598 mg/kg Rat	8000 mg/kg Rabbit	3.1 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene (mixed isomers)	1330-20-7
Ethylbenzene	100-41-4
N-Methyl 2-Pyrrolidone	872-50-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health:	2*	**Flammability:**	4	**Physical Hazard:**	0	**Personal Protection:**	X

NFPA RATINGS

Health:	2	**Flammability:**	4	**Instability**	0

VOLATILE ORGANIC COMPOUNDS, g/L: 620

SDS REVISION DATE: 8/6/2015

REASON FOR REVISION: Product Composition Changed
Substance and/or Product Properties Changed in Section(s):
01 - Identification
02 - Hazard Identification
05 - Fire-fighting Measures
09 - Physical & Chemical Properties
15 - Regulatory Information
16 - Other Information
Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Consumer Brands Canada believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Consumer Brands Canada makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME:

RANTEC CORPORATION
PO BOX 729
RANCHESTER, WY 82839
EMERGENCY PHONE: 1-307-655-9565

DATE PREPARED: 19 February 2009

PREPARED BY:
Lloyd Marsden, Plant Manager

SECTION I - Identification

Product name: Rantec Earth Tack **CAS #:** 25085-02-3
Chemical name: Anionic Polyacrylamide
Chemical family: Organic Polymer
Formula: Proprietary
DOT hazard class: None **DOT proper shipping name**: Non-Regulated

SECTION II - Hazardous Ingredients

None.

SECTION III - Physical Data

Boiling Point:	Solid, n/a
Vapor Pressure:	Solid, n/a
Vapor Density:	Solid, n/a
Evaporation Rate:	Solid, n/a
Solubility in Water:	10 g/l
Appearance and Odor:	White granular solid
Specific Gravity:	Density ~ 40 to 45 lb/cf
Melting Point:	N.D.

SECTION IV - Fire and Explosion Hazard Data

Flash Point:	Not Flammable
Flammable or Explosion Limits:	N/A
Unusual Fire and Explosion	See decomposition products.

SECTION V: Reactivity Data

Stability:	Stable
Incompatibility:	Oxidizing agents may cause exothermic reaction.
Hazardous Decomposition Products:	Thermal decomposition expected to produce carbon mono-oxide, carbon dioxide and various nitrous oxides.
Hazardous Polymerization:	Will not occur

SECTION VI: Health Hazard Data

OSHA Permissible Exposure Limit:	None established
ACGIH T.L.V.:	None established
Inhalation:	Dust may irritate respiratory tract.
Ingestion:	May cause discomfort or gastrointestinal disturbance. Low oral toxicity.
Skin:	May cause irritation, especially after prolonged or repeated contact.
Eyes:	Dust contact and solution may cause irritation.

SECTION VII - Special Precautions and Spill Procedures

Handling and Storage:	Store in a dry, cool place
Fire Extinguishing Agent:	Foam, carbon dioxide or dry chemical.
Avoid:	Water may cause extremely slippery conditions.
Special Fire Fighting Precautions:	Wear self-contained breathing apparatus. Solutions of product are extremely slippery.
Ventilation:	Local exhaust - if dusting occurs. Natural ventilation - adequate in the absence of dust.
Normal Handling:	Avoid contact with skin, eyes or clothing. Do not inhale dusts. Use normal personal hygiene and housekeeping.
Material Spills:	Sweep or shovel into metal or plastic container.
Waste Disposal:	Dispose in an approved landfill in accordance with local regulations. Do not dump down sewers or drains as this may cause blockage.
Signal Word:	"Caution! PRODUCTS ARE EXTREMELY SLIPPERY!"

SECTION VII- Special Protection Information for Safe Handling

Respiratory Protection:	If dusty conditions are encountered wear NIOSH approved dust respirator.
Hands, Arms and Body:	Rubber, plastic, leather.
Eyes and Face:	Safety glasses for normal handling conditions. Goggles when handling solutions. Do not wear contact lenses.

Other Clothing and Equipment: Eye was is recommended.

Notice:	Information contained in this literature is given in good faith, and no warranty, express or implied, is made. Contact manufacturer listed for more information

Safety Data Sheet

Section 1 - Identification of the Substance/Mixture and of the Company/Undertaking

Product Name: REDUCER 94 Product Code: S71-0094

Strathmore Products, Inc.
1970 W. Fayette St.
PO Box 151
Syracuse, NY 13201
315-488-5401

Emergency Phone (Day) M-F 8a-5p EST: 315-488-5401
Emergency Phone (Night) All other Hours:
Health - Poison Control Center: 315-476-4766
Spills - Chemtel: 1-800-255-3924

Product Use: Solvent
Not recommended for: No Information Available.

Section 2 - Hazards Identification

GHS Ratings:

Flammable liquid	3	Flash point >= 23°C and <= 60°C (140°F)

GHS Hazards

H226	Flammable liquid and vapour
H303	May be harmful if swallowed

GHS Precautions

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P280	Wear protective gloves/protective clothing/eye protection/face protection
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P370+P378	In case of fire: Use water spray, carbon dioxide (CO2), dry powder or dry chemical foam for extinction.
P403+P235	Store in a well ventilated place. Keep cool
P501	Dispose of contents/container in accordance with all local, jurisdictional, national and international regulations

Signal Word: Warning

Section 3 - Composition Information on Ingredients

Chemical Name	CAS number	Weight Concentration %
Methyl Isoamyl Ketone	110-12-3	

Section 4 - First Aid Measures

4.1 Description of First Aid Measures

General Advice - Show this safety data sheet to the doctor in attendance.

Inhalation - Move to fresh air. If symptoms persist, call a physician.
Eye Contact - Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.
Skin Contact - Wash off immediately with soap and plenty of water. Take off contaminated clothing. Get medical attention if irritation persists.
Ingestion - Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention immediately if symptoms occur.
Protection of First-aiders - Remove all sources of ignition. Use personal protective equipment.

Section 5 - Firefighting Measures

Flash Point: 36 C (97 F)
LEL: UEL:

5.1 Extinguishing Media

Suitable Extinguishing Media - Carbon Dioxide (CO2). Dry powder. Dry chemical foam. Water spray.

Unsuitable Extinguishing Media - Do not use a solid water stream as it may scatter and spread fire.
5.2 Special Hazards Arising from the Substance or Mixture - Vapors may form explosive mixtures with air. Most vapors are heavier than air. They wil spread along the ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous Combustible Products - No additional information available.
5.3 Advice for Firefighters - As in any fire, wear self-contained breathing apparatus and full protective gear.
Protective Equipment - Do not enter a fire area without proper protective equipment, including respiratory protection. Wear a self containing breathing apparatus.

Section 6 - Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures - ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use personal protective equipment. Avoid contact with skin, eyes and clothing.
6.2 Environmental Precautions - Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.
6.3 Methods and Materials for Containment and Cleaning Up - A vapor suppressing foam may be used to reduce vapors. Dike far ahead of liquid spill for later disposal.

Dam up. Soak up with inert absorbant materials (e.g. sand, silica gel, acid binder, universal binder, sawdust). Use clean non-sparking tools to collect absorbed material. Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

7.1 Precautions for Safe Handling - Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Hygiene Measures - When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and

clothing.

7.2 Conditions for Safe Storage, Including Any Incompatibilities - Keep containers tightly closed in a dry, cool, well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

7.3 Regulatory Requirements - No additional information.

Section 8 - Exposure Controls/Personal Protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Methyl Isoamyl Ketone 110-12-3	100 ppm TWA; 475 mg/m3 TWA	50 ppm STEL 20 ppm TWA	NIOSH: 50 ppm TWA; 240 mg/m3 TWA

8.1 Engineering Contols - Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion proof ventilation equipment.

Ventilation - Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapor. Avoid discharge to the environment.

Administration Controls - No information available.

8.2 Exposure Controls - Avoid all unnecessary exposure. Gloves. Protective Goggles. For certain operations, additional Personal Protective Equipment (PPE) may be required.

Hand Protection - Wear protective gloves. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Impervious gloves (neoprene) should be worn to protect against skin contact. A combination of barrier cream, applied before exposure and gloves is recommended.

Eye Protection - Chemical goggles and/or face shields are required to prevent potential eye contact, irritation or injury.

Skin and Body Protection - Wear suitable protective clothing. Chemical resistant safety shoes. Protective apron.

Respiratory Protection - Wear appropriate mask. A NIOSH/MSHA approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits. In applications where aerosols or vapors are emitted, a full face organic vapor cartridge respirator with a particulate pre-filter should be worn. In confined areas and in emergency situations, use a self-contained breathing apparatus or other air supplied full face respirator.

Contaminated Gear: Launder mildly contamination clothing. Dispose of moderate/heavily contaminated clothing, including shoes.

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Color Clear	**Odor** Ketone
Vapor Pressure: 1.5 mmHg	**Vapor Density:** 3.9
Weight Per Gallon 6.78	**Freezing point:** N/A
Boiling range: 144°C	**Flash Point** 97 F,36 C
Grams VOC/Liter Less Water 814.3	**Lbs VOC/Gallon Less Water** 6.80

Section 10 - Stability and Reactivity

10.1 Reactivity - No data available.

10.2 Chemical Stability - Product is stable under recommended conditions.

STABLE

10.3 Incompatible Materials - Strong oxidizing agents. Strong bases. Strong acids.

10.4 Conditions to Avoid - Heat, flames and sparks.

No additional information available

10.5 Possibility of Hazardous Reactions - None under normal processing.

10.6 Hazardous Decomposition Products - Carbon oxides. Hydrogen Chloride. Hydrogen Fluoride.

No additional information available

Hazardous polymerization will not occur.

Section 11 - Toxicological Information

Mixture Toxicity

Oral Toxicity LD50: 3,200mg/kg

Inhalation Toxicity LC50: 3,084mg/L

Component Toxicity

110-12-3 Methyl Isoamyl Ketone

Oral LD50: 3,200 mg/kg (Rat) Inhalation LC50: 3,813 ppm (Rat)

11.1 Information on Toxicological Effects -

Target Organ Effects - Central nervous system (CNS). Respiratory system.

Acute Toxicity

Inhalation - May cause irritation of respiratory tract.
Eye Contact - Irritating to eyes. Causes serious eye irritation.
Skin Contact - Causes skin irritation.
Ingestion - Ingestion may cause irritation to mucous membranes.

100-41-4 Ethylbenzene

If the coating contains ethylbenzene. Ethylbenzene is classified by IARC as possibly carcinogenic to humans (group 2B) based on inadequate evidence in humans & sufficient evidence in lab animals. Lifetime inhalation exposure to high concentrations of ethylbenzene in mice & rats results in increases in certain types of cancer, such as liver & lung tumors in mice & kidney tumors in rats. These effects were not seen when the animals were exposed to lower concentrations. There is no evidence ethylbenzene causes cancer in humans.

1333-86-4 Carbon Black

If the coating contains carbon black. Carbon black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal testing data. However there is insufficient evidence in humans for its carcinogenicity.

13463-67-7 Titanium Dioxide

If the coating contains titanium dioxide. Titanium dioxide is classified by IARC as possibly carcinogenic to humans (group 2B). Titanium dioxide is suspected of causing cancer by inhalation, which is not a viable route of entry as all titanium dioxide is dispersed into a liquid mixture in coatings.

CAS Number	Description	% Weight	Carcinogen Rating
None			No additional information available

Section 12 - Ecological Information

General Notes - Avoid release to the environment.

Component Ecotoxicity

Methyl Isoamyl Ketone 96 Hr LC50 Pimephales promelas: 159 mg/L [flow-through] (30 days old)

Section 13 - Disposal Considerations

13.1 Waste Treatment Methods

Waste from Residues/Unused Products - Dispose of in accordance with local regulations.

Contaminated Packaging - Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14 - Transportation Information

Disclaimer: Any given paint product can be shipped in different size containers, ranging from a pint can to bulk tanks. The shipping regulations in the United States vary depending on container size. The Basic Description given below are for shipments in fully regulated non-bulk containers, where the UN ID number, Proper Shipping Name, (technical names, if any), Packing Groups & Hazard Class (subsidiary risks, if any) are given. This section does not cover packaging exceptions, such as smaller quantities that can be shipped in combination packages i.e. Limited Quantity or Consumer Commodity with or without basic descriptions or shipping papers. Also not covered are exceptions given for products that do not sustain combustion and are excepted from regulations under certain modes of transportation. Nor for products containing Reportable Quantities (RQ's) of hazardous substances when shipped in bulk, but not reportable when shipped in non-bulk packaging. All subsequent shipping of this product must be done by properly trained and certified employees under the specific competent authority's regulations.

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT	5-METHYLHEXAN-2-ONE	2302	III	3
IATA	5-METHYLHEXAN-2-ONE	2302	III	3
IMDG	5-METHYLHEXAN-2-ONE	2302	III	3

Section 15 - Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture -

DSL

- None

In compliance with DSL Inventory requirements for commercial purposes.

Massachusetts Right to Know

110-12-3 Methyl Isoamyl Ketone to %

In compliance with Massachusetts Right to Know Inventory requirements for commercial purposes.

New Jersey Right to Know

110-12-3 Methyl Isoamyl Ketone to %

In compliance with New Jersey Right to Know Inventory requirements for commercial purposes.

Pennsylvania Right to Know

110-12-3 Methyl Isoamyl Ketone to %

In compliance with Pennsylvania Right to Know Inventory requirements for commercial purposes.

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are listed by the state of California as carcinogenic or a reproductive toxin:

- None

The following items are reportable under SARA 312.

- None

The following items are reportable under SARA 313.

- None

TSCA

110-12-3 Methyl Isoamyl Ketone to %

In compliance with TSCA Inventory requirements for commercial purposes.

WHMIS

110-12-3 Methyl Isoamyl Ketone to %

In compliance with WHMIS Inventory requirements for commercial purposes.

Country	Regulation	All Components Listed

EU Risk Phrases

Safety Phrase

- None

Section 16 - Other Information

User's Responsibility - The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required as an individual operation to instruct employees and develop work practice procedures for a safe work environment. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations. To the best of our knowledge, the information contained herein is accurate. However, Strathmore Products, Inc. assumes no liability whatsoever for the accuracy, reliability or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibilty of the user. Since conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by use of this material. All materials may present unknown health and safety hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

Date revised: 2015-12-18 Reviewer Revision 1

Date Prepared: 1/21/2016

B A R N E S D I S T R I B U T I O N
**** MATERIAL SAFETY DATA SHEET ****

Resin Bonded Abrasive Products

Part # MSDSN05367

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Resin Bonded Abrasive Products
Product CAS: (none)
Product Code: N05367
Synonyms: N01865; N05367; N05369; N05946; N06102; N06225; N06335; N06609; N06611; N06624; N06625; N06626; N06627; N07547; N07552; N07553; N07554; N09033; N09034; N09698; N09700; N10627; N10628; N10629; N10630; N10640; N10645; N10647; N10648; N10649; N10650; N10651; N10652; N10653; N10654; N10656; N10657; N10661; N10670; N10671; N10675; N10677; N10835; N11393; N11395; N11396; 0N14564; N15590; N15591; N15592; N15593; N15594; N17084; N18655; N18656; N18657; N19111; N19112; 1N19548; N19550; N19551; N19884; N20051; N20053; N20054; N23599; N23602; N23604; N24588; N24589; 2N27338; N27340; N27753; N27755; N27955; N27956; N28855; N29748; N29851; N29852; N29853; N29854; 3N29855; N29856; N29864; N29868; N29887; N29899; N30432; N30435; N30444; N30445; N30448; N30449; 4N30609; N30611; N30612; N30613; N30614; N30615; N30617; N30619; N30620; N30627.; N31328; 5N31329; N31595; N31596; N31597; N31598; N31599; N31600; N31602; N31603; N31604; N31605; N31606; 6N31607; N31608; N31753; N31754; N31755; N31756; N38899; N39145; N39207; N39259; N39307; N40098; 7N40099; N40147; N40148; N40149; N40515; N43183; N48983; N49104; N49105; N49106; N62067; N62098; 8Resin Bonded Abrasive Products
Company Identification:
Name: Norton
Address:
Address:
City: State: Zip:
For information, call: 216-416-7200
Emergency Number: 508-795-5000
Emergency Agency:
Number:
MSDS Creation Date: 1/1/2003
Supersedes Date: 2/8/2000

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
Sulfates & Sulfides	N-A	1	10
Zinc Compound (*)	N-A	1	5
Zirconium Oxide	1314-23-4	30	50
Aluminum Oxide, Non-fibrous	1344-28-1	40	90
Calcium Oxide	1305-78-8	1	5
Carbon Black	1333-86-4	.1	1
Cured PhenolFormaldehyde Resin	9003-35-4	3	12
Fiberglass	65997-17-3	.003	10
Inorganic Fluorides	N-A	2	10
Manganese Compounds (*)	N-A	1	5
@Crystalline Silica, Quartz	14808-60-7	.001	1

BARNES DISTRIBUTION

Silicon Carbide	409-21-2	80	90
Sodium Silicate	1344-09-8	5	15

Miscellaneous:
**SUBSTANCE IS A COMPOUND AND/OR MIXTURE
OTHER
@ Actual grinding tests with wheels known to contain Crystalline Silica did not produce any detectable amount of respirable free Crystalline Silica. The grinding wheel may be comprised of only someof th above. (*) This substance is regulated under Section 313 of the Emergency Planning and Community Right-to-know Act of 1986 and the Canadian National Pollution Reduction Initiative (NPRI).
The OSHA exposure limit represented in section 15 is for respirable dust and assumed to be worst case exposure to 100% crystalline silica; 10 mg/m3/(%silica+2)

Lbs of VOC per Gallon Coating (minus water): 0
Coating Density (lbs/gal): 0
Solvent Density (lbs/gal): 0
Percent Solvent (volume): 0
Percent Solids (volume): 0
Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: Fire: Reactivity: Other:
HMIS: Health: Fire: Reactivity: Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:
Chronic: May affect breathing capacity. For products containing phneol/formaldehyde resin, dust 0generated from intended use may contain trace amounts of phenol and formaldehyde which under 1excessive exposure may cause skin sensitization and airway obstruction. For products containing 2inorganic fluorides, excessive exposure to inorganic fluorides have been shown to increase bone 3density.

Eye:
Dust may irritate eyes.

Skin:
Some may experience skin irritation from dust.

Ingestion:
No known adverse effects, but ingestion not recommended.

Inhalation:
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.

Miscellaneous:

B A R N E S D I S T R I B U T I O N

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.

Skin:
Wash affected areas with soap and water. Obtain medical assistance.

Ingestion:
Call poison control center, hospital emergency room or physician immediately.

Inhalation:
Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

Special Fire Fighting Procedures:
Not Applicable.

Extinguishing Media:

Flash Point:

Flammable Limits:
Lower Limit:

Upper Limit:

AutoIgnition Temperature:

General Information:

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.Products with listed fluorides may have slightly soluble fluoride swarf.
NORTAN RECYCLING PROGRAM - Norton Company has developed a grinding wheel recycling program. If you are interested in returning your

stubs, information can be obtained by dialing (508) 795-5000.

Spills/Leaks:

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel.

Storage:

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Handle with adequate ventilation. See OSHA 29 CFR 1910.94 (ventilation) and 29 CFR 1910.1000 (Air contaminants).

Eyes:
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.

Skin:

Clothing:
Use of this product may create elevated sound levels, Hearing protection should be worn where r quir
ed (see OSHA 29 CFR 1910.134 and other applicable regulations).

Respirators:
Respirators are required when airborne contaminant levels exceed the TLV(s).

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:
Solid article. Odorless.

pH:

Vapor Pressure:
Vapor Density:
Evaporation Rate:
Viscosity:
Boiling Point:
Freezing/Melting Point:
Decomposition Temperature:
Solubility:
Specific Gravity: 1
Molecular Formula:
Molecular Weight:
Miscellaneous:

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Conditions to Avoid:

Incompatibilities with Other Materials:
Avoid acids of all types with a pH <4.0.

Hazardous Decomposition Products:
In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be significantly greaterthan the grinding wheel components. Coolants may produce other decomposition products.
For products containing phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde. For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

Hazardous Polymerization:

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
CARCINOGENICITY
Fiberglass contained in wheels have fiber diameters greater than 10 um, therefore considered non-respirable.
Crystalline Silica, Quartz - IARC-1, NIOSH-X, NTP-R.
LD50/LC50
Values are not appropriate or available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
CHEMICAL FATE

Resin bonded materials demonstrate similiar degradation rates as Phenolic plastics.
Vitrified products do not appreciably decay.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

Work/Hygienic Practices:

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation. (USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

	EXPOSURE LIMITS/REGULATORY INFORMATION			
SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000 6
Calcium Oxide	MG/M3	5.0000	2.0000	0.0000 5
Carbon Black	MG/M3	3.5000	3.5000	0.0000 0
Cured PhenolFormaldehyde Resin	PPM	0.0000	0.0000	0.0000 0
Fiberglass	FBR/CC	1.0000	0.0000	0.0000 0
Inorganic Fluorides	MG/M3	2.5000	2.5000	2.5000 2
Manganese Compounds (*)		0.0000	0.0000	0.0000 0
@Crystalline Silica, Quartz	MG/M3	0.1000	0.1000	0.0000 0
Silicon Carbide	MG/M3	10.0000	10.0000	10.0000 4
Sodium silicate				

		B A R N E S	D I S T R I B U T I O N		
	MG/M3	15.0000	0.0000	0.0000	0
Sulfates & Sulfides					
	MG/M3	0.0000	0.0000	0.0000	0
Zinc Compound(*)					
		0.0000	0.0000	0.0000	0
Zirconium Oxide					
	MG/M3	5.0000	5.0000	5.0000	5

LEGEND:
EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
This product contains chemicals, Crystalline Silica, Known to the State of California, to cause cancer.
TSCA
Section 8 (b) - Inventory Status
All components of this product are registed under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:
KEY TO ABBREVIATIONS:
EQ=EQual LT=Less Than GT=Greater Than
AP=APproximatelly TR=TRace

=

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, Norton Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

Conforms to USDOL OSHA 29CFR 1910.1200 HAZCOM

SAFETY DATA SHEET

Rid-X Septic System Concentrated Treatment Powder

HEALTH • HYGIENE • HOME

1. Product and company identification

Product name Rid-X Septic System Concentrated Treatment Powder

Distributed by : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600

Emergency telephone number (Medical) : 1-800-338-6167

Emergency telephone number (Transport) : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887

Website: : **http://www.rbnainfo.com**

Product use : Cleaning products - Drain Cleaners

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

SDS # : D0193955 v3.0

Formulation #: : 1398-103A (0193951v1.0)

UPC Code / Sizes : 19200-80306 (9.8 oz.)
19200-80307 (19.7 oz.)
19200-80309 (29.5 oz.)
19200-80310 (39.3 oz.)

2. Hazards identification

Classification of the substance or mixture : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

GHS label elements

Hazard pictograms : Not applicable.

Signal word : Warning

Hazard statements : Causes eye irritation.

Precautionary statements

General : Not applicable.

Prevention : Wear eye or face protection. Wash hands thoroughly after handling. Do not breathe dust.

2. Hazards identification

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : None known.

Hazards not otherwise classified : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
subtilisin	1 - 2.5	9014-01-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : No known significant effects or critical hazards.

4. First aid measures

Ingestion : May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

6. Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
subtilisin	**ACGIH TLV (United States, 6/2013).** C: 0.00006 mg/m³, (measured as 100% pure crystalline enzyme) **OSHA PEL 1989 (United States, 3/1989).** STEL: 0.00006 mg/m³ 60 minutes. **NIOSH REL (United States, 10/2013).** STEL: 0.00006 mg/m³ 60 minutes.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and chemical properties

Appearance

Physical state : Solid. [Powder.]

Color : Tan.

Odor : Fermentation.

Odor threshold : Not available.

pH : 5.5 to 8.5 [Conc. (% w/w): 10%]

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: >93.3°C (>199.9°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

9. Physical and chemical properties

Vapor density : Not available.

Relative density : Not available.

Solubility : Partially soluble in the following materials: cold water and hot water.

Solubility in water : 6 g/l

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
subtilisin	LD50 Oral	Rat	1800 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
subtilisin	Eyes - Moderate irritant	Rabbit	-	3 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

11. Toxicological information

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

11. Toxicological information

Route	ATE value
Oral	114003.4 mg/kg

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
subtilisin	Acute EC50 23.78 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
subtilisin	-3.1	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

Not a DOT controlled material (United States). Not a TDG-controlled material. This preparation is not classified as dangerous according to international transport regulations (ADR/RID, IMDG or ICAO/IATA).

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): Not determined.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
subtilisin	1 - 2.5	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: SUBTILISINS; BACILLOMYCIN

Pennsylvania : None of the components are listed.

Label elements

Signal word : CAUTION

Hazard statements : Contains Bacterial Spores and Enzymes. MAY CAUSE EYE IRRITATION.

Precautionary measures : Keep out of the reach of children. Individuals having known allergies, particularly to enzymes, as well as those with respiratory disease or disorders, should avoid contact with this product. Avoid breathing dust. Avoid contact with eyes. Wash hands thoroughly after handling.

16. Other information

Hazardous Material Information System (U.S.A.) :

Health	2
Flammability	0
Physical hazards	0
Personal protection	B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Date of issue : 18/02/2015.

Date of previous issue : 06/01/2009.

Version : 3

Prepared by : Reckitt Benckiser LLC.
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Montvale, New Jersey 07646-1810 USA.
FAX: 201-476-7770

16. Other information

Revision comments : Update as per US GHS.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

RB is a member of the CSPA Product Care Product Stewardship Program.

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION.

Rogersol, Inc.
5538 Northwest Highway
Chicago, IL 60630
800/621-0156
CHEMICAL EMERGENCY HOTLINE 800-424-9300

ITEM NUMBER: 11-01670-55M
ITEM DESCRIPTION: **Rogersolite (55gl)**
PRODUCT DESCRIPTION: Solvent
CHEMICAL FAMILY: Petroleum Hydrocarbon
REVISION DATE: 10/30/01

SECTION 2 - COMPOSITION INFORMATION ON INGREDIENTS

COMPONENT/CAS #	ACGIH TLV	OSHA PEL	% WT	NOTES
METHYL ALCOHOL 67-56-1	200 PPM SKIN	200 PPM SKIN	10-20	
TOLUENE 108-88-3	50 PPM (TWA)	200 PPM (TWA)	20-30	
ACETONE 67-64-1	500 PPM (TWA)	1000 PPM (TWA)	50-60	

ACGIH TLV: 750 ppm STEL

HAZARDOUS IDENTIFICATION CODE:

NFPA RATING: HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0

HMIS RATING: HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 0

SCALE: 0 = no hazard, 1 = minimal, 2 = moderate, 3 = high, 4 = extreme
HMIS = Hazardous Materials Identification System
NFPA = National Fire Protection Association
(Personal Protection Rating to be supplied by user depending on use conditions.)

SECTION 3 - PHYSICAL CHEMICAL PROPERTIES

FLASH POINT: Method, T.C.C., below 20 deg. F
APPEARENCE AND ODOR: Clear water white liquid with ketone odor
pH: Not applicable
SPECIFIC GRAVITY(water = 1.00): 0.851
VAPOR PRESSURE (mmHG @ 68 deg. F): Not available
VAPOR DENSITY (air=1): Not available
ODOR THRESHOLD: Not available
BOILING POINT: Not available
MELTING/FREEZING POINT: Not available
Coefficient of oil/water distribution: Not available
SOLUBILITY IN WATER: Partially
EVAPORATION RATE (n-butyl acetate = 1.00): Not available
PERCENT VOLATILITY BY WEIGHT (including water): 100.0
VOC: 2.84 lbs/gal (40%)

ITEM NUMBER: 11-01670-55M
ITEM DESCRIPTION: **Rogersolite (55gl)**
REVISION DATE: 10/30/01

SECTION 4 - HEALTH HAZARDS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: eyes, skin and inhalation
EYE CONTACT: Product may cause the following: moderate irritation on contact, vapors may also be irritating.
SKIN CONTACT: Product may cause the following: severe irritation possible. Prolonged or repeated contact with product may cause dermatitis.
SKIN ABSORPTION: This product is expected to be absorbed through the skin.
INHALATION: Product may cause the following: If vapors, mists and sprays of this product are inhaled, this may irritate nose, throat and lungs.
INGESTION: Product may cause the following: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea.
CHRONIC EFFECTS OF OVEREXPOSURE: This product may cause damage to skin, lung, liver, kidney and central nervous system.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disease, respiratory disease, kidney disorders, liver disease and central nervous system.
OTHER INFORMATION: TARGET ORGANS: Eyes, Skin, Respiratory system, Liver, Kidneys. Gastrointestinal tract. Prolonged and repeated overexposure to this product may cause central nervous system depression, headaches and nausea. Keep away from foodstuffs. Wash hands prior to food contact.

CARCINOGEN SUSPECT: The components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC

California Safe Drinking Water and Toxic Enforcement Act 1986(Proposition 65):

WARNING: This product contains chemical(s) known to the State of California to cause cancer and reproductive harm. This product contains trace amounts of benzene and toluene.

SECTION 5 - ACCIDENTAL RELEASE INFORMATION

1. Remove all ignition sources.
2. Ventilate area of spill or leak.
3. For small quantities, absorb on paper towels. Evaporate in a safe place (such a fume hood). Allow sufficient time for evaporating vapors to completely clear the hood and ductwork. Burn the papers in a suitable location away from combustible materials. Petroleum distillates should not be allowed to enter a confined space, such as a sewer, because of the possibility of an explosion.

If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center at 800-424-8802. If spill in excess of the EPA reportable quantity is released off-site to air, water or land, immediately notify the National Response Center.

ITEM NUMBER: 11-01670-55M
ITEM DESCRIPTION: **Rogersolite (55gl)**
REVISION DATE: 10/30/01

SECTION 6 - FIRST-AID PROCEDURES

EYE CONTACT: Immediately flush with water for at least 15 minutes. Remove contact lenses. Get medical attention.
SKIN CONTACT: Remove all contaminated clothing. Wash skin with soap and water. Get medical attention if indicated.
INHALATION: Remove victim to fresh air. Give artificial respiration or oxygen if needed. Get medical attention if indicated.
INGESTION: If this product is swallowed, call a physician or poison control center immediately. For quick response, the individual should drink milk or large quantities of water. Only induce vomiting as directed by medical personnel. NEVER give anything by mouth to an unconscious person.

SECTION 7 - FIRE AND EXPLOSION INFORMATION

AUTOIGNITION TEMP: unknown
EXPLOSIVE LIMITS IN AIR: unknown
EXTINGUISHING AGENTS: Use the following media when fighting fires: water spray, CO2, dry chemical, foam.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Use self-contained breathing apparatus and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not flame cut, weld or saw empty container.

SECTION 8 - REACTIVITY INFORMATION

STABILITY: Stable
CONDITIONS TO AVOID: Heat, sparks and open flames
INCOMPATABILITY (Materials to avoid): Strong oxidizing and reducing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon upon combustion.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9 - HANDLING & STORAGE PROCEDURES

EYE PROTECTION: Chemical safety splash goggles.
SKIN PROTECTION: Neoprene or natural rubber gloves should be worn.
VENTILATION REQUIREMENTS: General mechanical ventilation of area is recommended.
RESPIRATORY PROTECTION: NIOSH recommended if above TLV.
STORAGE PRECAUTIONS: Protect against physical damage to containers. Store in a cool, well ventilated area. Keep away from heat and oxidizing materials. Keep out of the reach of children. For industrial use only.
OTHER: Safety shower and eye wash should be available.

SECTION 10 - SPILL AND DISPOSAL INFORMATION

LARGE SPILLS: Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Use proper safety equipment. Contain spill and pump to suitable container. Wash area with suitable detergent and water. Thoroughly rinse area with water. Avoid direct discharge to sewers and surface waters.
SMALL SPILLS: Use absorbent material to collect spill and put in appropriate container for disposal. Wash area with suitable detergent and water. Thoroughly rinse area with water.
DISPOSAL METHOD: DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Use appropriate container and dispose in an approved, licensed site facility. NOTE: Dispose of all wastes in accordance with federal, state and local regulations.

IN CASE OF EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC 1-800-424-9300.

SECTION 11 - TOXICOLOGY INFORMATION

	LD50 Rat, oral	LC50 Rat, inh.
Methyl alcohol	5628 mg/kg	64000 ppm/4H

May be absorbed through the skin in toxic amounts.
Note to Physician: This product contains methanol. Methanol is metabolized to naldehyde and formic acid. These metabolites may cause acidosis, visual disturbance, and blindness. Medical consultation is essential with methanol poisoning.

	LD50 Rat, oral	LC50 Rat, inh.
Acetone	5800 mg/kg	50,100 mg/m3/8H

ACGIH STEL for Acetone: 750 ppm; Not classified as a human carcinogen.

	LD50 Rat, oral	LC50 Rat, inh.
Toluene	5000 mg/kg	4000 ppm/4H

Acceptable maximum peak above the acceptable ceiling concentration for an 8 hour shift: 500 ppm/10 min.

SECTION 12 - ECOLOGY INFORMATION

ALL WORK PRACTICES SHOULD BE AIMED AT PREVENTING ANY RELEASE TO THE ENVIRONMENT.

ENVIRONMENTAL STABILITY: All components of this product are stable in the environment. The solvents in this product may show significant environmental stability by absorption to soil.

EFFECT OF MATERIAL ON PLANTS OR ANIMALS: Impact on plants or animals will be the result of exposure to the solvent components. Plants may be stressed as a result of a large release to the environment. The following aquatic toxicity information as available for the components of this product.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No specific information is available on the effect of

ITEM NUMBER: 11-01670-55M
ITEM DESCRIPTION: **Rogersolite (55gl)**
REVISION DATE: 10/30/01

this product on aquatic life. The solvent components may cause significant harm to aquatic life, if released to bodies of water in large volume.

SECTION 13 - REGULATORY INFORMATION

Chemical Control Law Status: All components of this product are listed or are excluded from listing on the U.S. Toxic Substance Control Act (TSCA) chemical substance inventory.

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) as prescribed by Canadian (WHMIS) regulations.

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed or are excluded from listing on the DSL/NDSL Inventory.

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act and are listed as follows:

CHEMICAL NAME	SARA 302/304	SARA 311/312	SARA 313
Toluene RCRA CODE: U220	No	Fire	Yes
Acetone RCRA CODE: U002	No	Fire	No
Methyl Alcohol RCRA CODE: U154	Yes	Fire	Yes

STATE REGULATION INFORMATION

The components of this product are covered under specific State regulations as listed below:

Florida Substance List: Yes
Massachusetts Substance List: Yes
New Jersey Right to Know: Yes
California PELs for Chemical Contaminants: Yes
Texas Substance List: Yes
Ohio Substance List: Yes
Pennsylvania Substance List: Yes

SECTION 14 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME: Compounds, Cleaning Liquid
HAZARDOUS CONTENTS: (contains petroleum distillates)
DOT HAZARD CLASS: FLAMMABLE LIQUID
ID NUMBER: NA1993
PACKAGING TYPE: PG II

SECTION 15 - ADDITIONAL INFORMATION

A: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT. UNDER CERCLA (SUPERFUND), RELEASES TO AIR, LAND OR WATER MAY BE REPORTABLE TO THE NATIONAL RESPONSE CENTER (NRC), (800)424-8802.
Circumstances surrounding the release and cleanup determine reportability.

SECTION 16 - END OF DOCUMENT

END OF DOCUMENT

NOTE: This MSDS supercedes all previously dated MSDS for this product.

DISCLAIMER: The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.

END OF DOCUMENT

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION.

Rycoline Products LLC
5540 Northwest Highway
Chicago, IL 60630
773/775-6755
CHEMICAL EMERGENCY HOTLINE 800-424-9300

ITEM NUMBER: 11 01670 52
ITEM DESCRIPTION: **Rogersolite (5gl)**
PRODUCT DESCRIPTION: Solvent
CHEMICAL FAMILY: Petroleum Hydrocarbon
REVISION DATE: 12/19/05

SECTION 2 - COMPOSITION INFORMATION ON INGREDIENTS

COMPONENT/CAS #	ACGIH TLV	OSHA PEL	% WT	NOTES
ACETONE				
67 64 1	500 PPM (TWA)	1000 PPM (TWA)	<60	
ACGIH TLV: 750 ppm STEL				
TOLUENE				
108 88 3	50 PPM (TWA)	200 PPM (TWA)	<30	
METHYL ALCOHOL				
67-56-1	200 PPM SKIN	200 PPM SKIN	<20	

HAZARDOUS IDENTIFICATION CODE:

NFPA RATING:	HEALTH: 2	HMIS RATING:	HEALTH: 2
	FLAMMABILITY: 3		FLAMMABILITY: 3
	REACTIVITY: 0		REACTIVITY: 0

SCALE: 0 no hazard, 1 minimal, 2 moderate, 3 high, 4 extreme
HMIS Hazardous Materials Identification System
NFPA National Fire Protection Association
(Personal Protection Rating to be supplied by user depending on use conditions.)

SECTION 3 - PHYSICAL CHEMICAL PROPERTIES

FLASH POINT (Method, T.C.C.): <20°F
APPEARANCE AND ODOR: Clear dark blue liquid, mild acetone odor
pH: Not Applicable
SPECIFIC GRAVITY (water = 1.00): 0.851
VAPOR PRESSURE (mmHG @ 68 deg. F): Not Available
VAPOR DENSITY (mmHg at 68 F)(ASTM): Not Available
ODOR THRESHOLD: Not Available
BOILING POINT (degrees F @ 760 mmHg): Not Available
MELTING/FREEZING POINT: Not Applicable
COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Available
SOLUBILITY IN WATER: Partially
EVAPORATION RATE (n butyl acetate = 1.00): Not Available
PERCENT VOLATILITY BY WEIGHT (including water): 100
VOC (lbs/gal): 2.48 (40)

ITEM NUMBER: 11-01670-52
ITEM DESCRIPTION: **Rogersolite (5gl)**
REVISION DATE: 12/19/05

SECTION 4 - HEALTH HAZARDS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eyes, skin and respiratory
EYE CONTACT: Severe irritation.
SKIN CONTACT: Reddening and mild irritation.
SKIN ABSORPTION: May produce systemic toxicity; CNS depression.
INHALATION: May cause headache, dizziness, nausea, CNS depression.
INGESTION: Harmful or fatal if swallowed. Pulmonary aspiration hazard.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Preexisting conditions of the skin, eye, liver, CNS, asthma.
CARCINOGEN: The ingredients of this product have NOT been identified as carcinogens by: OSHA NTP IARC

California Safe Drinking Water and Toxic Enforcement Act 1986 (Proposition 65):

WARNING: This product contains chemical(s) known to the State of California to cause cancer and reproductive harm. This product contains toluene and trace amounts of benzene.

SECTION 5 - ACCIDENTAL RELEASE INFORMATION

1. Remove all ignition sources.
2. Ventilate area of spill or leak.
3. For small quantities, absorb on paper towels. Evaporate in a safe place (such a fume hood). Allow sufficient time for evaporating vapors to completely clear the hood and ductwork. Burn the papers in a suitable location away from combustible materials. Petroleum distillates should not be allowed to enter a confined space, such as a sewer, because of the possibility of an explosion.

If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center at 800 424 8802. If spill in excess of the EPA reportable quantity is released off site to air, water or land, immediately notify the National Response Center.

SECTION 6 - FIRST-AID PROCEDURES

EYE CONTACT: Immediately flush with water for at least 15 minutes. Remove contact lenses. Get medical attention.
SKIN CONTACT: Remove all contaminated clothing. Wash skin with soap and water. Get medical attention if indicated.
INHALATION: Remove victim to fresh air. Give artificial respiration or oxygen if needed. Get medical attention if indicated.
INGESTION: If this product is swallowed, call a physician or poison control center immediately. For quick response, the individual should drink milk or large quantities of water. Only induce vomiting as directed by medical personnel. NEVER give anything by mouth to an unconscious person.

ITEM NUMBER: 11-01670-52
ITEM DESCRIPTION: **Rogersolite (5gl)**
REVISION DATE: 12/19/05

SECTION 7 - FIRE AND EXPLOSION INFORMATION

AUTOIGNITION TEMP: unknown
EXPLOSIVE LIMITS IN AIR: unknown
EXTINGUISHING AGENTS: Use the following media when fighting fires: water spray, CO2, dry chemical, foam.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Use self contained breathing apparatus and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not flame cut, weld or saw empty container.

SECTION 8 - REACTIVITY INFORMATION

STABILITY: Stable
CONDITIONS TO AVOID: Heat, sparks and open flames
INCOMPATABILITY (Materials to avoid): Strong oxidizing and reducing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon upon combustion.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9 - HANDLING & STORAGE PROCEDURES

EYE PROTECTION: Chemical safety splash goggles.
SKIN PROTECTION: Neoprene or natural rubber gloves should be worn.
VENTILATION REQUIREMENTS: General mechanical ventilation of area is recommended.
RESPIRATORY PROTECTION: NIOSH recommended if above TLV.
STORAGE PRECAUTIONS: Protect against physical damage to containers. Store in a cool, well ventilated area. Keep away from heat and oxidizing materials. Keep out of the reach of children. For industrial use only.
OTHER: Safety shower and eye wash should be available.

SECTION 10 - SPILL AND DISPOSAL INFORMATION

LARGE SPILLS: Contain spill and pump to suitable container. Wash area with suitable detergent and water. Thoroughly rinse area with water.
SMALL SPILLS: Use absorbent material to collect spill and put in appropriate container for disposal. Wash area with suitable detergent and water. Thoroughly rinse area with water.
DISPOSAL METHOD: Use appropriate container and dispose in an approved, licensed site facility. NOTE: Dispose of all wastes in accordance with federal, state and local regulations.
IN CASE OF EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC 1 800 424 9300.

SECTION 11 - TOXICOLOGY INFORMATION

	LD50 Rat, oral	LC50 Rat, inh.
Acetone	5,800 mg/kg	30,000 ppm/4hr
Toluene	2,600-7,500 mg/kg	7,350 ppm/4hr

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Methyl Alcohol	5,628 mg/kg	64,000 ppm/4hr

SECTION 12 - ECOLOGY INFORMATION

No data are available on this product.

SECTION 13 - REGULATORY INFORMATION

Chemical Control Law Status: All components of this product are listed on the U.S. Toxic Substance Control Act (TSCA) chemical substance inventory.

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) as prescribed by Canadian (WHMIS) regulations: Class B2 (Flammable liquid), Class D2A (Materials Causing Other Toxic Effects Very Toxic Material), Class D2B (Materials Causing Other Toxic Effects Toxic Material).

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed on the DSL Inventory.

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act and are listed as follows:

CHEMICAL NAME	SARA 302	SARA 304	SARA 311/312	SARA 313
Acetone	No	Yes	Fire, Acute, Chronic	No
Toluene	No	Yes	Fire, Acute, Chronic	Yes
Methyl Alcohol	No	No	Fire, Acute, Chronic	Yes

SECTION 14 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME: Flammable Liquid, N.O.S.
HAZARDOUS CONTENTS: (Contains Acetone, Toluene, Methanol)
DOT HAZARD CLASS: 3
ID NUMBER: UN 1993
PACKAGING TYPE: PG II

SECTION 15 - ADDITIONAL INFORMATION

None currently available.

SECTION 16 - END OF DOCUMENT

END OF DOCUMENT

NOTE: This MSDS supercedes all previously dated MSDS for this product.

DISCLAIMER: The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the

ITEM NUMBER: 11-01670-52
ITEM DESCRIPTION: **Rogersolite (5gl)**
REVISION DATE: 12/19/05

product, the safety of this product, or the hazards related to its use.

END OF DOCUMENT

Rosco Laboratories Inc.
52 Harbor View Avenue
Stamford, CT, USA, 06902
Phone: (203) 708 8900

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name : **ROSCO FOG FLUID & ROSCO SMOKE SIMULATION FLUID**

Product Use : Fog fluid

Chemical Family : Aqueous glycol solution

Supplier's name and address:

Rosco Laboratories Inc.

52 Harbor View Avenue
Stamford, CT, United States
06902

24 Hr. Emergency Tel # : (800) 424-9300

HMIS Rating : *- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health: 1 *Flammability:* 0 *Reactivity:* 0

WHMIS Classes:

Unregulated

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (weight)	ACGIH TLV		OSHA PEL	
			TWA	STEL	PEL	STEL
Triethylene glycol	112-27-6	N/Av	N/Av	N/Av	N/Av	N/Av
1,3-Butylene glycol	107-88-0	N/Av	N/Av	N/Av	N/Av	N/Av
Propylene glycol	57-55-6	N/Av	10 mg/m3	N/Av	50 ppm(total) ; 10 mg/m3 (aerosol)	N/Av
Deionized water	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

* Note: The ACGIH TLV listed above for the following ingredient(s) is an AIHA WEEL: Propylene glycol.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Green liquid. Faint odor. No special hazards exist with this product. As with any chemical substance, caution and care will prevent unnecessary accidents and safety problems. Read instructions on label before use. **HEALTH CAUTION: Fog from this fluid, like any other common material in an aerosolized state, may be irritating to or cause allergic symptoms in some persons with allergenic sensitivity. Persons with active asthma should limit their exposure to the fog.**

POTENTIAL HEALTH EFFECTS

Target organs : None reported by the manufacturer.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:*YES *Ingestion:* YES

Potential acute health effects :

Eyes: May cause mild transient irritation.

Skin: May cause irritation.

Inhalation: Can cause irritation of the respiratory tract. Persons suffering from asthma or reactive airway disorders may experience asthma-like effects from exposure to this material.

Ingestion: Not an expected route of entry. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Potential chronic health effects
: None reported by the manufacturer.

Medical conditions aggravated by overexposure
: Pre-existing skin and respiratory disorders.

Additional health hazards : None reported by the manufacturer.

Potential environmental effects
: None reported by the manufacturer.

SECTION 4 - FIRST AID MEASURES

Inhalation : Inhalation problems are not anticipated. Remove exposed person to fresh air if adverse effects, such as breathing difficulty arise. If irritation persists, seek prompt medical attention.

Skin contact : Flush skin with large amounts of water. Wash affected areas with soap and water. Remove and wash contaminated clothing before re-use. Obtain medical attention if symptoms develop and persist.

Eye contact : If in eyes, rinse with water for 15 minutes. Lift upper and lower lids during flushing to ensure complete removal of chemical. If irritation persists, seek prompt medical attention.

Ingestion : Ingestion of large amounts may be harmful. Keep at rest. Seek immediate medical attention/advice.

Notes For Physician : Low degree of toxicity. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability
: Not flammable under normal conditions of handling.

Flammability classification (OSHA 29 CFR 1910.1200)
: Not flammable.

Flash point : Not available.

Flash point Method : Not available.

Auto-ignition temperature : Not available.

Lower flammable limit (% by vol.)
: Not available.

Upper flammable limit (% by vol.)
: Not available.

Suitable extinguishing media
: Extinguishing media - large fires: Non-flammable aqueous liquid, all-purpose foam
Extinguishing media - small fires: Carbon dioxide (CO_2) , Dry chemical.

Explosion data: Sensitivity to mechanical impact / static discharge
: Not expected to be sensitive to mechanical impact or static discharge.

Special fire-fighting procedures/equipment
: None reported by the manufacturer.

Hazardous combustion products
: Oxides of carbon.

Oxidizing properties : None known or reported by the manufacturer.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear suitable protective clothing (see Section 8).

Environmental precautions : No special environmental precautions required.

Spill response/cleanup : Evacuate personnel to safe areas. Restrict access to area until completion of clean-up. Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

Containment : Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Do not ingest. Do not inhale aerosol. Avoid contact with skin and eyes. Keep containers tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapors.

Storage requirements : Store in a cool, dry, well-ventilated area. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10). Do not freeze. Keep container tightly closed when not in use.

Incompatible materials : Strong oxidizing agents and acids.

Special packaging materials

: Liquid-proof glass, plastic or non-corrodible metal containers are recommended.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

: General mechanical ventilation is sufficient for use with this product.

Respiratory protection : None required under normal conditions.

Skin protection : None required under normal conditions. Gloves of natural rubber or polyvinyl chloride-coated gloves are recommended.

Eye / face protection : None required under normal conditions. If splashing might occur, wear eye protection such as safety glasses with side shields.

Other protective equipment

: Emergency showers and eyewash facilities should be nearby.

General hygiene considerations

: Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid.

Appearance : Green liquid.

Odor : Faint odor.

Odor threshold : Not available.

pH : 7.0 (approximately)

Boiling point : 100-243 °C

Specific gravity : 1.12 (approximately)

Melting/Freezing point : Not available.

Coefficient of water/oil distribution

: Not available.

Vapor pressure (mmHg @ 20° C / 68° F)

: 8.4 (approximately)

Solubility in water : soluble

Vapor density (Air = 1) : 2.9

Evaporation rate (n-Butyl acetate = 1)

: 0.01

Volatile organic Compounds (VOC's) (lbs/gal; g/l)

: Not available.

Volatiles (% by weight) : Not available.

Viscosity : Not available.

Special Remarks On Fire Hazards

: Not flammable under normal conditions of use.

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity : Stable under normal conditions.

Hazardous polymerization : Will not occur.

Conditions to avoid : Combination with strong oxidizers and/or acids may cause explosive decomposition.

Materials To Avoid And Incompatibility

: Strong oxidizing agents and acids.

Hazardous decomposition products

: None.

SECTION 11 - TOXICOLOGICAL INFORMATION

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} oral	LD_{50} dermal
Triethylene glycol	N/Av	12,800 mg/kg (rat)	22,460 mg/kg (rabbit)
1,3-Butylene glycol	N/Av	18610 mg/kg (rat)	> 20000 mg/kg (rabbit)
Propylene glycol	N/Av	20,000 mg/kg (rat)	20,800 mg/kg (rabbit)
Deionized water	N/Av	>90 mL/kg (rat)	N/Av

Toxicological data : Low order of toxicity for normal industrial handling.
Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects : Not expected to have other reproductive effects.
Teratogenicity : Not expected to be a teratogen.
Mutagenicity : Not expected to be mutagenic in humans.
Reproductive Effects : Not expected to have other reproductive effects.
Irritancy : Direct contact may cause mild eye irritation. Possible inhalation irritant. Irritating to skin.

Sensitization to material : Not expected to be a sensitizer.
Synergistic materials : None reported by the manufacturer.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects : None known or reported by the manufacturer. However, it is recommended not to allow the material to enter the environment.
Important environmental characteristics
: None known or reported by the manufacturer.
Ecotoxicological : No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : See Section 7 (Handling and Storage) section for further details.
Methods of Disposal : Contact waste disposal services. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

SECTION 14 - TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	Not regulated	-None-	
TDG Additional information	None.				
49CFR/DOT	None	Not regulated.	Not regulated	-None-	
49CFR/DOT Additional information	None.				

ICAO/IATA	None	Not regulated.	Not regulated	-None-	
ICAO/IATA Additional information	None.				
IMDG	None	Not regulated.	Not regulated	-None-	
IMDG Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.
SARA Section 313: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical Constituents above de minimus concentrations.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Canadian Regulations:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).
Canadian WHMIS Classification: Not regulated.
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16 - OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
IARC: International Agency for Research on Cancer
N/Ap: not applicable
N/Av: not available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration

References : Information obtained from sources including original supplier's Material Safety Data Sheet, and references including RTECS and CCOHS Cheminfo.

Prepared for:
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52 Harbor View Avenue
Stamford, CT, USA, 06902
Phone: (203) 708 8900
http://http://www.rosco.com/

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ICC The Compliance Center Inc.
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Rosco Laboratories Inc.
52 Harbor View Avenue
Stamford, CT, USA, 06902
Phone: (203) 708 8900

DISCLAIMER OF LIABILITY

Every effort has been made to ensure that the safety information on this sheet is accurate, but because Rosco Laboratories, Inc. has no control over the conditions under which the product will be used, liability is limited exclusively to replacement or refund of the purchase price of this product. Except as stated herein, there are no express or implied warranties, including implied warranties of merchantability or fitness for a particular purpose. Rosco Laboratories, Inc. assumes no liability for injury or incidental or consequential damages arising out of storage, handling or use of this product.

Preparation Date: April 1, 2015

END OF DOCUMENT

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

RPM® Universal Gear Lubricant

Product Use: Gear Lubricant
Product Number(s): 225039, 225040
Synonyms: Chevron RPM® Universal Gear Lubricant SAE 80W-90, Chevron RPM® Universal Gear Lubricant SAE 85W-140
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15-C50)	Mixture	70 - 99 %wt/wt

SECTION 3 HAZARDS IDENTIFICATION

****
EMERGENCY OVERVIEW

- HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT
****

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (ASTM D92) 180 °C (356 °F) Minimum
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Keep out of the reach of children.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.
If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15-C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15-C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Brown
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1
Boiling Point: 315°C (599°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Specific Gravity: 1 @ 15°C (59°F) (Typical)
Density: @ 15°C (59°F)
Viscosity: 13.7 mm2/s @ 100°C (212°F) Minimum
Evaporation Rate: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not

been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE
Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1.	Immediate (Acute) Health Effects:	NO
2.	Delayed (Chronic) Health Effects:	NO
3.	Fire Hazard:	NO
4.	Sudden Release of Pressure Hazard:	NO
5.	Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Gear oil)

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 2, 16.
Revision Date: August 20, 2013

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the

date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

1674

[redacted]

[X] Close this window

Common Name: HIGH PERFORMANCE INDUSTRIAL ENAMEL AEROSOL - INVERTED STRIPING, 23268:
Manufacturer: RUST-OLEUM
MSDS Revision Date: 8/27/2004

Grainger Item Number(s): 1F764, 6A380, 6A938, 6A939, 6H084
Manufacturer Model Number(s): 2326, 2348, 2364, 2378, 2391

MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.

MATERIAL SAFETY DATA SHEET

24 HOUR ASSISTANCE: 1-847-367-7700

RUST-OLEUM CORP.

WWW.RUSTOLEUM.COM

SECTION 1 - CHEMICAL PRODUCT/COMPANY INFORMATION

PRODUCT NAME:
RUST-OLEUM HIGH PERFORMANCE INDUSTRIAL ENAMEL AEROSOL - INVERTED STRIPING

REVISION DATE: 08/27/2004

IDENTIFICATION NUMBER: 2326838, 2348838, 2364838, 2378838, 2391838

PRODUCT USE/CLASS: INVERTED STRIPING PAINT/AEROSOL

SUPPLIER:
RUST-OLEUM CORPORATION
11 HAWTHORN PARKWAY
VERNON HILLS, IL 60061
USA

MANUFACTURER:
RUST-OLEUM CORPORATION
11 HAWTHORN PARKWAY
VERNON HILLS, IL 60061
USA

PREPARER: CZICZO, RAY

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WEIGHT % LESS THAN	ACGIH TLV-TWA
LIQUIFIED PETROLEUM GAS	68476-86-8	25.0	1000 PPM
TITANIUM DIOXIDE	13463-67-7	15.0	10 MG/M3
ALIPHATIC HYDROCARBON	64742-89-8	10.0	300 PPM
TOLUENE	108-88-3	10.0	50 PPM
NAPHTHA	8032-32-4	10.0	300 PPM
ACETONE	67-64-1	5.0	500 PPM
STODDARD SOLVENTS	8052-41-3	5.0	100 PPM
PIGMENT BLACK 7	1333-86-4	5.0	3.5 MG/M3
AROMATIC HYDROCARBON	64742-95-6	5.0	N.E.
XYLENE	1330-20-7	5.0	100 PPM
1,2,4-TRIMETHYLBENZENE	95-63-6	5.0	25 PPM
ETHYLBENZENE	100-41-4	1.0	100 PPM

CHEMICAL NAME	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
LIQUIFIED PETROLEUM GAS	N.E.	1000 PPM	N.E.
TITANIUM DIOXIDE	N.E.	10 MG/M3	N.E.
ALIPHATIC HYDROCARBON	N.E.	300 PPM	N.E.
TOLUENE	150 PPM	200 PPM	300 PPM
NAPHTHA	N.E.	N.E.	N.E.

ACETONE	750 PPM	750 PPM	N.E.
STODDARD SOLVENTS	N.E.	500 PPM	N.E.
PIGMENT BLACK 7	N.E.	3.5 MG/M3	N.E.
AROMATIC HYDROCARBON	N.E.	N.E.	N.E.
XYLENE	150 PPM	100 PPM	N.E.
1,2,4-TRIMETHYLBENZENE	N.E.	N.E.	N.E.
ETHYLBENZENE	125 PPM	100 PPM	N.E.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
HARMFUL IF INHALED. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. CONTENTS UNDER PRESSURE. VAPORS MAY CAUSE FLASH FIRE OR EXPLOSION. EXTREMELY FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED.

EFFECTS OF OVEREXPOSURE - EYE CONTACT: CAUSES EYE IRRITATION.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT:
PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN IRRITATION. SUBSTANCE MAY CAUSE SLIGHT SKIN IRRITATION.

EFFECTS OF OVEREXPOSURE - INHALATION:
HIGH VAPOR CONCENTRATIONS ARE IRRITATING TO THE EYES, NOSE, THROAT AND LUNGS. AVOID BREATHING VAPORS OR MISTS. HIGH GAS, VAPOR, MIST OR DUST CONCENTRATIONS MAY BE HARMFUL IF INHALED. HARMFUL IF INHALED.

EFFECTS OF OVEREXPOSURE - INGESTION:
ASPIRATION HAZARD IF SWALLOWED; CAN ENTER LUNGS AND CAUSE DAMAGE. SUBSTANCE MAY BE HARMFUL IF SWALLOWED.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS:
IARC LISTS ETHYLBENZENE AS A POSSIBLE HUMAN CARCINOGEN (GROUP 2B). MAY CAUSE CENTRAL NERVOUS SYSTEM DISORDER (E.G., NARCOSIS INVOLVING A LOSS OF COORDINATION, WEAKNESS, FATIGUE, MENTAL CONFUSION, AND BLURRED VISION) AND/OR DAMAGE. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. OVEREXPOSURE TO XYLENE IN LABORATORY ANIMALS HAS BEEN ASSOCIATED WITH LIVER ABNORMALITIES, KIDNEY, LUNG, SPLEEN, EYE AND BLOOD DAMAGE AS WELL AS REPRODUCTIVE DISORDERS. EFFECTS IN HUMANS, DUE TO CHRONIC OVEREXPOSURE, HAVE INCLUDED LIVER, CARDIAC ABNORMALITIES AND NERVOUS SYSTEM DAMAGE. OVEREXPOSURE TO TOLUENE IN LABORATORY ANIMALS HAS BEEN ASSOCIATED WITH LIVER ABNORMALITIES, KIDNEY, LUNG AND SPLEEN DAMAGE. EFFECTS IN HUMANS HAVE INCLUDED LIVER AND CARDIAC ABNORMALITIES. CONTAINS CARBON BLACK. CHRONIC INFLAMMATION, LUNG FIBROSIS, AND LUNG TUMORS HAVE BEEN OBSERVED IN SOME RATS EXPERIMENTALLY EXPOSED FOR LONG PERIODS OF TIME TO EXCESSIVE CONCENTRATIONS OF CARBON BLACK AND SEVERAL INSOLUBLE FINE DUST PARTICLES. TUMORS HAVE NOT BEEN OBSERVED IN OTHER ANIMAL SPECIES (I.E., MOUSE AND HAMPSTER) UNDER SIMILAR CIRCUMSTANCES AND STUDY CONDITIONS. EPIDEMIOLOGICAL STUDIES OF NORTH AMERICAN WORKERS SHOW NO EVIDENCE OF CLINICALLY SIGNIFICANT ADVERSE HEALTH

EFFECTS DUE TO OCCUPATIONAL EXPOSURE TO CARBON BLACK. CARBON BLACK IS LISTED AS A GROUP 2B - "POSSIBLY CARCINOGENIC TO HUMANS" BY IARC AND IS PROPOSED TO BE LISTED AS A4 - "NOT CLASSIFIED AS A HUMAN CARCINOGEN" BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS. SIGNIFICANT EXPOSURE IS NOT ANTICIPATED DURING BRUSH APPLICATION OR DRYING. RISK OF OVEREXPOSURE DEPENDS ON DURATION AND LEVEL OF EXPOSURE TO DUST FROM REPEATED SANDING OF SURFACES OR SPRAY MIST AND THE ACTUAL CONCENTRATION OF CARBON BLACK IN THE FORMULA.

PRIMARY ROUTE(S) OF ENTRY:
SKIN CONTACT, SKIN ABSORPTION, INHALATION, EYE CONTACT

SECTION 4 - FIRST AID MEASURES

FIRST AID - EYE CONTACT:
HOLD EYELIDS APART AND FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

FIRST AID - SKIN CONTACT:
WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS.

FIRST AID - INHALATION:
IF YOU EXPERIENCE DIFFICULTY IN BREATHING, LEAVE THE AREA TO OBTAIN FRESH AIR. IF CONTINUED DIFFICULTY IS EXPERIENCED, GET MEDICAL ASSISTANCE IMMEDIATELY.

FIRST AID - INGESTION:
ASPIRATION HAZARD:
DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH BECAUSE THIS MATERIAL CAN ENTER THE LUNGS AND CAUSE SEVERE LUNG DAMAGE. GET IMMEDIATE MEDICAL ATTENTION.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: -156 F (SETAFLASH)

LOWER EXPLOSIVE LIMIT: 1.0%
UPPER EXPLOSIVE LIMIT: 12.8%

EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS:
VAPORS CAN TRAVEL TO A SOURCE OF IGNITION AND FLASH BACK. VAPORS MAY FORM EXPLOSIVE MIXTURES WITH AIR. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. WATER SPRAY MAY BE INEFFECTIVE.
FLASH POINT IS LESS THAN 20 DEG. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! PERFORATION OF THE PRESSURIZED CONTAINER MAY CAUSE BURSTING OF THE CAN. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS AND OPEN FLAME. KEEP CONTAINERS TIGHTLY CLOSED.

SPECIAL FIREFIGHTING PROCEDURES:
EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
CONTAIN SPILLED LIQUID WITH SAND OR EARTH. DO NOT USE COMBUSTIBLE MATERIALS SUCH AS SAWDUST. REMOVE ALL SOURCES OF IGNITION, VENTILATE AREA AND REMOVE WITH INERT ABSORBENT AND NON-SPARKING TOOLS. DISPOSE OF ACCORDING TO LOCAL, STATE (PROVINCIAL) AND FEDERAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

SECTION 7 - HANDLING AND STORAGE

HANDLING:
WASH THOROUGHLY AFTER HANDLING. WASH HANDS BEFORE EATING. USE ONLY IN A WELL-VENTILATED AREA. FOLLOW ALL MSDS/LABEL PRECAUTIONS EVEN AFTER CONTAINER IS EMPTIED BECAUSE IT MAY RETAIN PRODUCT RESIDUES. AVOID BREATHING VAPOR OR MIST.

STORAGE:
KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS AND OPEN FLAME. DO NOT STORE ABOVE 120 DEG. F. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FOR STORAGE OF NFPA CLASS I FLAMMABLE LIQUIDS. CONTENTS UNDER PRESSURE. DO NOT EXPOSE TO HEAT OR STORE ABOVE 120 DEG. F.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
USE EXPLOSION-PROOF VENTILATION EQUIPMENT. PREVENT BUILD-UP OF VAPORS BY OPENING ALL DOORS AND WINDOWS TO ACHIEVE CROSS-VENTILATION. USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO CONTROL AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS.

RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE. A NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE OR CANISTER MAY BE PERMISSIBLE UNDER CERTAIN CIRCUMSTANCES WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE LIMITS.

PROTECTION PROVIDED BY AIR PURIFYING RESPIRATORS IS LIMITED. USE A POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR IF THERE IS ANY POTENTIAL FOR AN UNCONTROLLED RELEASE, EXPOSURE LEVELS ARE NOT KNOWN, OR ANY OTHER CIRCUMSTANCES WHERE AIR PURIFYING RESPIRATORS MAY NOT PROVIDE ADEQUATE PROTECTION.

SKIN PROTECTION:
USE IMPERVIOUS GLOVES TO PREVENT SKIN CONTACT AND ABSORPTION OF THIS MATERIAL THROUGH THE SKIN. NITRILE OR NEOPRENE GLOVES MAY AFFORD ADEQUATE SKIN PROTECTION.

EYE PROTECTION:
USE SAFETY EYEWEAR DESIGNED TO PROTECT AGAINST SPLASH OF LIQUIDS.

OTHER PROTECTIVE EQUIPMENT:
REFER TO SAFETY SUPERVISOR OR INDUSTRIAL HYGIENIST FOR FURTHER INFORMATION REGARDING PERSONAL PROTECTIVE EQUIPMENT AND ITS APPLICATION.

HYGIENIC PRACTICES:
WASH THOROUGHLY WITH SOAP AND WATER BEFORE EATING, DRINKING OR SMOKING.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE: 130 - 410 F

VAPOR DENSITY: HEAVIER THAN AIR

ODOR: SOLVENT LIKE

ODOR THRESHOLD: ND

APPEARANCE: LIQUID

EVAPORATION RATE: FASTER THAN ETHER

SOLUBILITY IN H2O: SLIGHT

FREEZE POINT: ND

SPECIFIC GRAVITY: 0.9700

VAPOR PRESSURE: ND

PH: NE

PHYSICAL STATE: LIQUID

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS TO AVOID:
AVOID ALL POSSIBLE SOURCES OF IGNITION. AVOID TEMPERATURES ABOVE 120 DEG. F.

INCOMPATIBILITY:
INCOMPATIBLE WITH STRONG OXIDIZING AGENTS, STRONG ACIDS AND STRONG ALKALIES.

HAZARDOUS DECOMPOSITION:
WHEN HEATED TO DECOMPOSITION IT EMITS ACRID SMOKE AND IRRITATING FUMES. BY OPEN FLAME, CARBON MONOXIDE AND CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR UNDER NORMAL CONDITIONS.

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

SECTION 11 - TOXICOLOGICAL INFORMATION

PRODUCT LD50: ND
PRODUCT LC50: ND

CHEMICAL NAME	LD50	LC50
LIQUIFIED PETROLEUM GAS	N.D.	N.D.
TITANIUM DIOXIDE	>7500 MG/KG (ORAL, RAT)	N.D.
ALIPHATIC HYDROCARBON	N.D.	N.D.
TOLUENE	N.D.	N.D.
NAPHTHA	>5000 MG/KG (ORAL, RAT)	N.D.
ACETONE	N.D.	N.D.
STODDARD SOLVENTS	N.D.	N.D.
PIGMENT BLACK 7	>8000 MG/KG (ORAL, RAT)	N.D.
AROMATIC HYDROCARBON	N.D.	N.D.
XYLENE	N.D.	N.D.
1,2,4-TRIMETHYLBENZENE	N.D.	18000 MG/M3 (RAT, 4 HR)
ETHYLBENZENE	3500 MG/KG (ORAL, RAT)	N.D.

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: PRODUCT IS A MIXTURE OF LISTED COMPONENTS.

SECTION 13 - DISPOSAL INFORMATION

DISPOSAL INFORMATION:
DISPOSE OF MATERIAL IN ACCORDANCE TO LOCAL, STATE AND FEDERAL REGULATIONS AND ORDINANCES. DO NOT ALLOW TO ENTER STORM DRAINS OR SEWER SYSTEMS.

SECTION 14 - TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: AEROSOL

DOT TECHNICAL NAME:

DOT HAZARD CLASS: 2

DOT UN/NA NUMBER: UN 1950

PACKING GROUP:

HAZARD SUBCLASS: 1

RESP. GUIDE PAGE: 126

SECTION 15 - REGULATORY INFORMATION

CERCLA - SARA HAZARD CATEGORY:
THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:
IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

SARA SECTION 313:
LISTED BELOW ARE THE SUBSTANCES (IF ANY) CONTAINED IN THIS PRODUCT THAT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

CHEMICAL NAME	CAS NUMBER
TOLUENE	108-88-3
XYLENE	1330-20-7
1,2,4-TRIMETHYLBENZENE	95-63-6
ETHYLBENZENE	100-41-4

TOXIC SUBSTANCES CONTROL ACT:
LISTED BELOW ARE THE SUBSTANCES (IF ANY) CONTAINED IN THIS PRODUCT THAT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF TSCA 12(B) IF EXPORTED FROM THE UNITED STATES: NONE KNOWN

U.S. STATE REGULATIONS: AS FOLLOWS -

NEW JERSEY RIGHT-TO-KNOW:
THE FOLLOWING MATERIALS ARE NON-HAZARDOUS, BUT ARE AMONG THE TOP FIVE COMPONENTS IN THIS PRODUCT.

CHEMICAL NAME	CAS NUMBER
CALCIUM CARBONATE	1317-65-3
MODIFIED ALKYD	PROPRIETARY

PENNSYLVANIA RIGHT-TO-KNOW:
THE FOLLOWING NON-HAZARDOUS INGREDIENTS ARE PRESENT IN THE PRODUCT AT GREATER THAN 3%.

CHEMICAL NAME	CAS NUMBER

CALCIUM CARBONATE 1317-65-3

MODIFIED ALKYD PROPRIETARY

CALIFORNIA PROPOSITION 65:
WARNING:
THE FOLLOWING INGREDIENTS PRESENT IN THE PRODUCT ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER:

CHEMICAL NAME	CAS NUMBER
ETHYLBENZENE	100-41-4
MICROCRYSTALLINE SILICA	14808-60-7
FORMALDEHYDE	50-00-0
BENZENE	71-43-2
ARSENIC COMPOUNDS	NOT SPECIFIED
CADMIUM COMPOUNDS	NOT SPECIFIED
ACETALDEHYDE	75-07-0
NICKEL COMPOUNDS	NOT SPECIFIED
LEAD COMPOUNDS	NOT SPECIFIED

WARNING:
THE FOLLOWING INGREDIENTS PRESENT IN THE PRODUCT ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS, OR OTHER REPRODUCTIVE HAZARDS.

CHEMICAL NAME	CAS NUMBER
TOLUENE	108-88-3
BENZENE	71-43-2
ARSENIC COMPOUNDS	NOT SPECIFIED
CADMIUM COMPOUNDS	NOT SPECIFIED
MERCURY COMPOUNDS	NOT SPECIFIED
LEAD COMPOUNDS	NOT SPECIFIED

INTERNATIONAL REGULATIONS: AS FOLLOWS -

CANADIAN WHMIS:
THIS MSDS HAS BEEN PREPARED IN COMPLIANCE WITH CONTROLLED PRODUCT REGULATIONS EXCEPT FOR THE USE OF THE 16 HEADINGS.

CANADIAN WHMIS CLASS:
AB5
D2A
D2B

SECTION 16 - OTHER INFORMATION

HMIS RATINGS:
HEALTH: 2*
FLAMMABILITY: 4
REACTIVITY: 0
PERSONAL PROTECTION: X

VOLATILE ORGANIC COMPOUNDS, G/L: 523 MAX

REASON FOR REVISION:

LEGEND:
N.A. - NOT APPLICABLE
N.E. - NOT ESTABLISHED
N.D. - NOT DETERMINED

THE INFORMATION CONTAINED ON THIS MSDS HAS BEEN CHECKED AND SHOULD BE ACCURATE. HOWEVER, IT IS THE RESPONSIBILITY OF THE USER TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

Safety Data Sheet

Printing date 10/13/2015 Revised On 10/13/2015

1 Identification of the substance and manufacturer

Trade name: **SAFETY BLUE**

Product code: BD12120000
Product category PC9a Paints and coatings.
Manufacturer/Supplier: Seymour of Sycamore
917 Crosby Avenue
Sycamore, IL 60178
Phone: 815-895-9101 www.seymourpaint.com
Emergency telephone number: CHEMTEL 1-800-255-3924, or 813-248-0585.

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Aerosol 1 H222 Extremely flammable aerosol.
Press. Gas H280 Contains gas under pressure; may explode if heated.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

GHS Hazard pictograms

GHS02 GHS04 GHS07

Signal word Danger
Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Protect from sunlight. Store in a well-ventilated place.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-64-1	Acetone	19.89%
74-98-6	propane	15.79%
106-97-8	n-butane	9.27%
7727-43-7	barium sulfate, natural	8.39%
108-10-1	methyl isobutyl ketone	5.79%
107-87-9	Methyl Propyl Ketone	2.96%
110-19-0	isobutyl acetate	2.88%
1330-20-7	xylene (mix)	2.54%

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Rinse out mouth and then drink plenty of water.
Rinse mouth with water. Do not induce vomiting.

Most important symptoms and effects: Dizziness
Indication of any immediate medical attention needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Special hazards: Can form explosive gas-air mixtures.
Protective equipment for firefighters: A respiratory protective device may be necessary.

(Contd. on page 2)

Safety Data Sheet

Printing date 10/13/2015 Revised On 10/13/2015

Trade name: SAFETY BLUE

(Contd. of page 1)

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Precautions for safe handling Use only in well ventilated areas.

Storage requirements: Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions. Store locked up.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

67-64-1 Acetone

PEL (USA)	Long-term value: 2400 mg/m³, 1000 ppm
REL (USA)	Long-term value: 590 mg/m³, 250 ppm
TLV (USA)	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm BEI

74-98-6 propane

PEL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1800 mg/m³, 1000 ppm
TLV (USA)	refer to Appendix F inTLVs and BEIs book

106-97-8 n-butane

REL (USA)	Long-term value: 1900 mg/m³, 800 ppm
TLV (USA)	Short-term value: 2370 mg/m³, 1000 ppm

7727-43-7 barium sulfate, natural

PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 5* mg/m³ *inhalable fraction; E

108-10-1 methyl isobutyl ketone

PEL (USA)	Long-term value: 410 mg/m³, 100 ppm
REL (USA)	Short-term value: 300 mg/m³, 75 ppm Long-term value: 205 mg/m³, 50 ppm
TLV (USA)	Short-term value: 307 mg/m³, 75 ppm Long-term value: 82 mg/m³, 20 ppm BEI

107-87-9 Methyl Propyl Ketone

PEL (USA)	Long-term value: 700 mg/m³, 200 ppm
REL (USA)	Long-term value: 530 mg/m³, 150 ppm
TLV (USA)	Short-term value: 529 mg/m³, 150 ppm

110-19-0 isobutyl acetate

PEL (USA)	Long-term value: 700 mg/m³, 150 ppm
REL (USA)	Long-term value: 700 mg/m³, 150 ppm
TLV (USA)	Short-term value: NIC-712 mg/m³, NIC-150 ppm Long-term value: (713) NIC-238 mg/m³, (150) NIC-50 ppm

1330-20-7 xylene (mix)

PEL (USA)	Long-term value: 435 mg/m³, 100 ppm
REL (USA)	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV (USA)	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI

Ingredients with biological limit values:

67-64-1 Acetone

BEI (USA)	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

108-10-1 methyl isobutyl ketone

BEI (USA)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK

(Contd. on page 3)

Safety Data Sheet

Printing date 10/13/2015 Revised On 10/13/2015

Trade name: SAFETY BLUE

(Contd. of page 2)

1330-20-7 xylene (mix)	
BEI (USA)	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Immediately remove all soiled and contaminated clothing.
Wash hands after use.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.

Hand protection: Protective gloves. The glove material must be impermeable and resistant to the substance.

Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Appearance: Aerosol.
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
Melting point/Melting range Undetermined.
Boiling point: -44 °C (-47 °F)

Flash point: -19 °C (-2 °F)
Flammability (solid, gas): Extremely flammable.

Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.

Danger of explosion: In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %

Vapor pressure: Not determined.
Relative Density: Between 0.77 and 0.85 (Water equals 1.00)
Vapour density Not determined.
Evaporation rate Not applicable.
Partition coefficient: n-octonal/water: Not determined.

Solubility: Not determined.
Viscosity: Not determined.

VOC content: 498.5 g/l / 4.16 lb/gl
VOC content (less exempt solvents): 46.4 %
MIR Value: 1.11

Solids content: 33.1 %

10 Stability and reactivity

Reactivity: Stable at normal temperatures.
Conditions to avoid: Do not allow can to exceed 120 degrees Fahrenheit. Do not warehouse in subfreezing temperatures.
Chemical stability: Not fully evaluated.
Possibility of hazardous reactions: No dangerous reactions known.
Incompatible materials: No further relevant information available.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

LD/LC50 values that are relevant for classification:		
106-97-8 n-butane		
Inhalative	LC50/4 h	658 mg/l (rat)
108-10-1 methyl isobutyl ketone		
Oral	LD50	2100 mg/kg (rat)
Dermal	LD50	16000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)
110-19-0 isobutyl acetate		
Oral	LD50	4763 mg/kg (rbt)
1330-20-7 xylene (mix)		
Oral	LD50	8700 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rbt)
Inhalative	LC50/4 h	6350 mg/l (rat)

Information on toxicological effects: No data available.
Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

(Contd. on page 4)

Safety Data Sheet

Printing date 10/13/2015 Revised On 10/13/2015

Trade name: SAFETY BLUE

(Contd. of page 3)

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
108-10-1	methyl isobutyl ketone	2B
13463-67-7	titanium dioxide	2B
1330-20-7	xylene (mix)	3

NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Persistence and degradability: The product is degradable after prolonged exposure to natural weathering processes.
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.
Other adverse effects: No further relevant information available.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT N/A
DOT Consumer Commodity ORM-D
Aerosols, flammable
ADR 1950 Aerosols
Transport hazard class(es):
Class 2.1
Marine pollutant: No
Special precautions for user: Warning: Gases
EMS Number: F-D,S-U
Packaging Group: --
UN "Model Regulation": UN1950, Aerosols, 2.1

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
7727-43-7	barium sulfate, natural
108-10-1	methyl isobutyl ketone
1330-20-7	xylene (mix)

CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
108-10-1	methyl isobutyl ketone
13463-67-7	titanium dioxide
100-41-4	ethyl benzene
1333-86-4	Carbon black

CANADIAN ENVIRONMENTAL PROTECTION ACT: All hazardous ingredients for this product appear on the Canadian Domestice Substance List.

EPA:		
67-64-1	Acetone	I
7727-43-7	barium sulfate, natural	D, CBD(inh), NL(oral)
108-10-1	methyl isobutyl ketone	I
110-19-0	isobutyl acetate	D
1330-20-7	xylene (mix)	I

16 Other information

Contact: Regulatory Affairs
Date of preparation / last revision 10/13/2015 / -

PRODUCT NAME: SAFETY YELLOW ENAMEL **HMIS CODES: H F R P**
PRODUCT CODE: ER2618-20-01 **2*3 0**

========== SECTION I - MANUFACTURER IDENTIFICATION ==========

MANUFACTURER'S NAME: TRINKOTE INDUSTRIAL FINISHES
ADDRESS : 1800 PARK PLACE AVE.
FORT WORTH, TX 76110

EMERGENCY PHONE : 1-800-424-9300 **DATE PRINTED : 2/25/2010**
INFORMATION PHONE : 817/926-5683 **NAME OF PREPARER : TRINKOTE INDUSTRIAL**

========== SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION ==========

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE MM HG @ TEMP		WEIGHT PERCENT
* Butyl Carbitol		0.00kPa		65% - 70%
ACGIH 20 PPM				
NIOSH 5 PPM				
OSHA Z1 50 PPM				
Calcium Carbonate	471-34-1	NA	NA	30% - 40%
ACGHI TLV-TWA = 10 mg/m3				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = N.E.				
OSHA CEILING = N.E.				
Naphtha (Petroleum), Light Alphatic	64742-89-8	10	68 F	20% - 30%
ACGIH TLV-TWA = 300 ppm				
ACGIH STEL = 375 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 300 ppm				
OSHA CEILING = 375 ppm				
* Toluene	108-88-3	22	68 F	10% - 15%
ACGIH TLV-TWA = 50 ppm				
ACGIH STEL = 150 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 200 ppm				
OSHA CEILING = 300 ppm				
Titanium Dioxide	13463-67-7	NA	NA	1% - 3%
ACGIH TLV-TWA = N.E.				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = 15 mg/m3				
OSHA CEILING = 10 mg/m3				
* Xylene	1330-20-7	6.15	68 F	< 1%
ACGIH TLV-TWA = 100 ppm				
ACGIH STEL = 125 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 100 ppm				
OSHA CEILING = 150 ppm				
* Ethyl benzene	100-41-4	9.6	77 F	< 1%
ACGIH TLV-TWA = 100 ppm				
ACGIH STEL = 125 ppm				
ACGIH CEILING = N.E.				
OSHA PEL = 100 ppm				
OSHA CEILING = 125 ppm				

*INDICATES TOXIC CHEMICAL(S) "SUBJECT" TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III AND OF 40 CFR 372.
ALL COMPONENTS OF THIS PRODUCT ARE PRESENT ON THE UNITED STATES TOXIC SUBSTANCES CONTROL ACT(TSCA) CHEMICAL SUBSTANCES INVENTORY.

========== SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS ==========

BOILING RANGE: 232 F - 446.7F **SPECIFIC GRAVITY (H2O=1): 1.19**
VAPOR DENSITY: HEAVIER THAN AIR **EVAPORATION RATE: Slower than ether.**
COATING V.O.C.: 3.75 lb/gl **MATERIAL V.O.C.: 3.75 lb/gl**
COATING GR/LT: 450 g/l MATERIAL GR/LT: 450 g/l
SOLUBILITY IN WATER: MATERIAL IS NOT WATER SOLUBLE AND/OR DISPERSABLE IN WATER.
APPEARANCE AND ODOR: LIQUID WITH SOLVENT ODOR.

========== SECTION IV - FIRE AND EXPLOSION HAZARD DATA ==========

FLASH POINT: 45 F

FLASH POINT IS WORST CASE SCENARIO **METHOD USED: TCC**

FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: 1.00 UPPER: 12.3

EXTINGUISHING MEDIA: Foam, CO2, dry chemical.

SPECIAL FIREFIGHTING PROCEDURES
NONE KNOWN. HOWEVER, FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION IF MATERIAL IS INVOLVED IN A GENERAL FIRE.
FULL PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO-IGNITION OR EXPLOSION FROM HEATING.

UNUSUAL FIRE AND EXPLOSION HAZARDS
HANDLE AS IGNITABLE LIQUID. KEEP CONTAINERS TIGHTLY CLOSED AND ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS OR FLAME. VAPORS FORM AND EXPLOSIVE MIXTURE IN AIR BETWEEN THE UPPER AND LOWER EXPLOSIVE LIMITS. NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

========== SECTION V - REACTIVITY DATA ==========

STABILITY: STABLE
CONDITIONS TO AVOID
Poor ventilation.

INCOMPATIBILITY (MATERIALS TO AVOID)
ALKALINE MATERIALS, STRONG ACIDS AND OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
THERMAL DECOMPOSITION OR COMBUSTION CAN PRODUCE FUMES OF CARBON DIOXIDE AND CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR UNDER NORMAL CONDITIONS.

========== SECTION VI - HEALTH HAZARD DATA ==========

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE,THROAT,AND LUNGS IN POORLY VENTILATED ARES.

SOLVENT VAPOR OR MIST CAN CAUSE DIZZINESS,BREATHING DIFFICULTY, HEADACHES, IRRITATION TO NOSE AND THROAT, LOSS OF COORDINATION. CONTINUED OVER-EXPOSURE CAN LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN CONTACT:IRRITATING TO THE SKIN ON REPEATED OR PROLONGED CONTACT. EYE CONTACT: DIRECT CONTACT MAY CAUSE EYE IRRITATION.

SKIN CONTACT: CAN CAUSE IRRITAITON. CAN CAUSE DEFATTING OF SKIN WHICH CAN LEAD TO DERMATITIS. EYE CONTACT: LIQUID OR VAPOR CAN CAUSE IRRITATION, TEARING DISCOMFORT, REDNESS AND BLURRED VISION.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

LIQUID CAN BE ABSORBED THROUGH SKIN CAUSING IRRITATION, DEFATTING AND DERMATITIS.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

CAN CAUSE GASTROINTESTINAL IRRITATION.

CAN CAUSE MOUTH,THROAT,ESOPHAGUS AND STOMACH IRRITATION,NAUSEA,VOMITING, AND DIARRHEA.

HEALTH HAZARDS (ACUTE AND CHRONIC)

ACUTE EFFECTS ARE LISTED ABOVE.

REPORTS HAVE ASSOCIATED REPEATED OR PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING CONTENTS MAY BE HARMFUL OR FATAL.

CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: Yes

OSHA REGULATED: Yes

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

N/A

EMERGENCY AND FIRST AID PROCEDURES

Inhalation - Move person to fresh air. Eye contact - Flush immediately with a large amount of water for at least 20 minutes and get medical attention. Skin contact - Wash thoroughly with soap and water while removing contaminated clothing and shoes. Ingestion - Do not induce vomiting! Contact physician or your local poison control center immediately if ingestion occurs.

========== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE ==========

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

DIKE SPILL AREA AND ADD ABSORBENT EARTH, SAND OR SAWDUST TO SPILLED LIQUID. KEEP OUT OF SEWERS.

ELIMINATE ALL SOURCES OF IGNITION (FLAMES, HOT SURFACES, AND ELECTRICAL, STATIC, OR FRICTIONAL SPARKS). AVOID BREATHING VAPORS. VENTILATE AREA. CONTAIN AND REMOVE WITH INERT ABSORBENT AND NON-SPARKING TOOLS. KEEP OUT OF SEWERS.

WASTE DISPOSAL METHOD

COLLECT ABSORBENT/SPILLED LIQUID INTO METAL CONTAINERS. DISPOSE OF IN ACCORDANCE WITH LOCAL,STATE,AND FEDERAL REGULATIONS. DON NOT INCINERATE CLOSED CONTAINERS. INCINERATE IN APPROVED FACILITY. OBEY RELEVANT LAWS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP AWAY FROM EXCESSIVE HEAT, SPARKS OR OPEN FLAMES. KEEP CONTAINERS CLOSED WHEN NOT IN USE. STORE IN COOL,WELL VENTILATED APPROVED AREAS. AVOID FREE FALL AND GROUND CONTAINER WHEN POURING. USE NON-SPARKING UTENSILS WHEN HANDLING THIS MATERIAL. KEEP CONTAINERS CLOSED AND UPRIGHT WHEN NOT IN USE. TO MINIMIZE THE POSSIBLITY OF SPONTANEOUS COMBUSTION, CONTROL THE ACCUMULATION OF ANY OVERSPRAY, SOAK RAGS IN WATER IN A CLOSED METAL CONTAINER THAT WERE USED TO WIPE UP

OVERSPRAY. AIR DRY FILTERS OUTSIDE AND KEEP FAR AWAY FROM ANY COMBUSTIBLE MATERIAL. DISPOSE OF ALL CONTAMINATED MATERIALS AND WASTE PROPERLY. CONSULT OSHA 29 CFR 1910.107(D)(5) AND NFPA 33 FOR THE PROPER PROCEDURES.
KEEP FROM FREEZING! KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER HANDLING.

OTHER PRECAUTIONS
DO NOT TAKE INTERNALLY. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED TO COMPLY WITH OSHA 1910.106. EMPTIED CONTAINERS MAY RETAIN HAZARDOUS RESIDUE AND EXPLOSIVE VAPORS. KEEP AWAY FROM HEAT, SPARKS AND FLAMES. DO NOT CUT, PUNCTURE OR WELD ON OR NEAR EMPTIED CONTAINERS. WASH HANDS AFTER USING AND BEFORE SMOKING OR EATING. FOLLOW ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET UNTIL CONTAINER IS THOROUGHLY CLEANED OR DESTROYED. KEEP OUT OF REACH OF CHILDREN.

========== SECTION VIII - CONTROL MEASURES ==========

RESPIRATORY PROTECTION
DO NOT "INTENTIALLY" BREATHE VAPORS OR SPRAY MIST. IF YOUR COMPANIES SPRAYING CONDITIONS ARE HAZARDOUS, WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING THE USE OF THIS PRODUCT UNTIL VAPOR AND MISTS LEVELS ARE BELOW APPLICABLE EXPOSURE LIMITS. OBSERVE OSHA STANDARD 29CFR1910.1343. WE DO NOT KNOW THE CONDITIONS IN WHICH YOU WILL BE UTILIZING THIS PRODUCT, THEREFORE, EACH COMPANY MUST MAKE INDIVIDUAL JUDGEMENT CALLS BASED UPON THEIR PLANT. MANY COMPANIES MAY BE ABLE TO UTILIZE THIS PRODUCT WITHOUT THE USE OF RESPIRATORS IF CONDITIONS PERMIT.

VENTILATION
N/A

PROTECTIVE GLOVES
POLYETHYLENE HANDLING GLOVES FOR SKIN PROTECTION. MUST BE IMPERVIOUS TO WATER AND SOAP.
USE CHEMICAL/SOLVENT IMPERMEABLE GLOVES TO AVOID CONTACT WITH PRODUCT.

EYE PROTECTION
Use chemical safety glassses or goggles (ANSI 287.1-1968).
Avoid contact with eyes. Use safety eyewear with splash guards or side shields, chemical goggles, or face shields.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT
PROVIDE EYEWASH STATION AND EMERGENCY SHOWER. USE OF PROTECTIVE CREAMS, HEAD CAPS, ETC. IS RECOMMENDED. AVOID CONTACT WITH CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING, INCLUDING SHOES, BEFORE REUSE.

WORK/HYGIENIC PRACTICES
WASH HANDS BEFORE EATING OR USING WASHROOM, SMOKE IN SMOKING AREAS ONLY.

========== SECTION IX - DISCLAIMER ==========

To the best of our knowledge, the information contained herein is based on data considered accurate. No warranty expressed or implied is made. Trinkote Industrial Finishes assumes no responsibility for damage to person, property or business caused by the material. It is the responsibility of the purchaser or user of the material to ensure that it is properly used. This MSDS is intended for OSHA regulating purposes only. It is not intended for the reporting of emissions, storm water, waste, or pollution reporting. Any and all such information is made available by specific requests through the Compliance or Laboratory Offices of Trinkote Industrial Finishes.

========== NOTES ==========

N/A

SAFETY DATA SHEET

1. Identification

Product identifier **Safety-Silv® 20, Safety-Silv® 25, Safety-Silv® 30, Safety-Silv® 35, Safety-Silv® 40, Safety-Silv® 45, Safety-Silv® 50, Safety-Silv® 72**

Other means of identification

SDS number 0010

Product type Solid wire and rod bare and flux coated

Synonyms High Silver Brazing Alloys containing Silver, Copper, Zinc or Silver and Copper

Recommended use Metal brazing.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier

Harris Products Group
4501 Quality Place
Mason, Ohio 45040 US
custservmason@jwharris.com

Telephone number 513-754-2000

Emergency Telephone Numbers 1-888-609-1762 (US, Canada, Mexico only)

Please quote 333988

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

FUMES AND GASES developed during product melting can be hazardous to your health. HEAT RAYS, (infrared radiation) from flame or hot metal can injure eyes. Wear correct eye, ear, and body protection. Chemical flux used with the product, or flux coating on the rod, may contain fluorides or other materials that generate hazardous fumes when heated.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Silver	7440-22-4	20 - 72
Copper	7440-50-8	25 - 50
Zinc	7440-66-6	10 - 40

Flux

Chemical name	CAS number	%
Potassium fluoroborate	14075-53-7	30 - 60
Boric acid	10043-35-3	10 - 35
Methacrylate polymer	Proprietary	1 - 5
Water	7732-18-5	Balance

Composition comments

Rods may be coated with flux containing Boric acid (CAS 10043-35-3) and Potassium fluoborate (CAS 14075-53-7). It can be reasonably assumed that on coated rods each of the flux constituents may comprise up to 30% by mass of the total mass.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation

Remove person from contaminated area to fresh air. Apply artificial respiration if needed. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact

Rinse immediately with plenty of water for at least 15 minutes. Remove any contact lenses. Get medical attention if irritation develops or persists.

Ingestion

Do NOT induce vomiting. Immediately rinse mouth and drink a cupful of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Contact may cause irritation and redness. Dust may irritate respiratory system. Typical metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. The first symptoms are a metallic taste, dryness and irritation of the throat. Cough and shortness of breath may occur along with headache, fatigue, nausea, vomiting, muscle and joint pain, fever and chills. The syndrome runs its course in 24-48 hours.

Indication of immediate medical attention and special treatment needed

Treat symptomatically. Symptoms may be delayed.

General information

Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Extinguish with foam, carbon dioxide or dry powder.

Unsuitable extinguishing media

Do not use water or halogenated extinguishing media.

Specific hazards arising from the chemical

Fire or high temperatures create: Metal oxides.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from fire area if you can do it without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

There is no spilled material. Product has metal rods or wire form.

Methods and materials for containment and cleaning up

For waste disposal, see Section 13 of the SDS.

Environmental precautions

Avoid release to the environment.

7. Handling and storage

Precautions for safe handling

Avoid inhalation of dust and fumes. Use process enclosures, local exhaust ventilation, or other engineering controls to control sources of dust and fumes. Keep formation of airborne dusts to a minimum. Avoid contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8). Do not get this material on clothing. Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Store in tightly closed original container in a dry, cool and well-ventilated place. Store in a closed container away from incompatible materials. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Copper (CAS 7440-50-8)	PEL	1 mg/m3	Dust and mist.
		0.1 mg/m3	Fume.
Silver (CAS 7440-22-4)	PEL	0.01 mg/m3	
Decomposition	**Type**	**Value**	**Form**
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m3	Respirable fraction.
		5 mg/m3	Fume.
		15 mg/m3	Total dust.
Flux	**Type**	**Value**	
Fluorides (CAS 16984-48-8)	PEL	2.5 mg/m3	

US. OSHA Table Z-2 (29 CFR 1910.1000)

Flux	Type	Value	Form
Fluorides (CAS 16984-48-8)	TWA	2.5 mg/m3	Dust.

ACGIH

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0.2 mg/m3	Fume.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Silver (CAS 7440-22-4)	TWA	0.1 mg/m3	Dust and fume.
Decomposition	**Type**	**Value**	**Form**
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
Flux	**Type**	**Value**	**Form**
Boric acid (CAS 10043-35-3)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Fluorides (CAS 16984-48-8)	TWA	2.5 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
Silver (CAS 7440-22-4)	TWA	0.01 mg/m3	Dust.
Decomposition	**Type**	**Value**	**Form**
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		5 mg/m3	Dust.
Flux	**Type**	**Value**	
Fluorides (CAS 16984-48-8)	TWA	2.5 mg/m3	

Biological limit values

ACGIH Biological Exposure Indices

Flux	Value	Determinant	Specimen	Sampling Time
Fluorides (CAS 16984-48-8)	3 mg/l	Fluoride	Urine	*
	2 mg/l	Fluoride	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines No exposure standards allocated.

Appropriate engineering controls	Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust and fumes. Shower, hand and eye washing facilities near the workplace are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). When these products are used in conjunction with brazing, it is recommended that safety glasses, goggles, or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, “Safety in Welding and Cutting”) be worn.
Skin protection	
Hand protection	Wear protective gloves (i.e. latex, nitrile, neoprene).
Other	Protective clothing is recommended. When these products are used in conjunction with brazing, wear protective clothing that protects from sparks and flame (per ANSI Z49.1-1988, “Safety in Welding and Cutting”).
Respiratory protection	Use a respirator when local exhaust or ventilation is not adequate to keep exposures below the TLV. In a confined space a supplied respirator may be required. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. In case of inadequate ventilation or risk of inhalation of dust or fumes, use suitable respiratory equipment.
Thermal hazards	Not available.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Wire and rods.
Physical state	Solid.
Form	Solid.
Color	Not available.
Odor	Odorless.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases. Acetylene. Ammonia. Hydrogen peroxide (H2O2). Chlorine. Bromine, iodine, turpentine, magnesium metal. Hydrogen sulfide. Ammonium nitrate.
Hazardous decomposition products	Toxic metal oxides are emitted when heated above the melting point. Products containing flux may also release boric anhydride, fluoride compounds and hydrogen fluorides. Methacrylate polymer decomposes when heated and will release flammable vapors which irritate eyes and the respiratory system. They comprise mainly n-butyl methacrylate (CAS 97-88-1).

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause respiratory tract irritation. Lung damage and possible pulmonary edema can result from dust exposure. Inhalation of fumes may cause a flu-like illness called metal fume fever.
Skin contact	Dust may irritate skin. May cause allergic skin reaction. Exposure to hot material may cause thermal burns.
Eye contact	Fumes from heated material may cause eye irritation. Dust may irritate the eyes. Exposure to hot material may cause thermal burns.
Ingestion	Not a likely route of exposure as the product is a solid metal wire or rod.
Symptoms related to the physical, chemical and toxicological characteristics	Contact may cause irritation and redness. Dust may irritate respiratory system. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Typical metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. The first symptoms are a metallic taste, dryness and irritation of the throat. Cough and shortness of breath may occur along with headache, fatigue, nausea, vomiting, muscle and joint pain, fever and chills. The syndrome runs its course in 24-48 hours.

Information on toxicological effects

Acute toxicity	When heated, the vapors/fumes given off may cause respiratory tract irritation. High concentrations of freshly formed fumes/dusts of metal oxides can produce symptoms of metal fume fever. Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

Toxicological data

Flux	Species	Test Results
Boric acid (CAS 10043-35-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	2660 mg/kg

Skin corrosion/irritation	Dust may irritate skin.
Serious eye damage/eye irritation	Dust may irritate the eyes.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Fluorides (CAS 16984-48-8) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not reported to cause reproductive effects in humans. Clinical studies on test animals exposed to relatively high doses of the Boric Acid and Copper components of this product indicate adverse reproductive effects.
Specific target organ toxicity - single exposure	Not classified.

Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Ingestion of silver may cause a permanently benign bluish gray discoloration to the skin (argyria). Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. Absorbed fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and seizures. Chronic inhalation of fumes or dust may cause irritation or other respiratory conditions (e.g., bronchitis).
Further information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity Alloys in massive forms present a limited hazard for the environment.

Flux		Species	Test Results
Boric acid (CAS 10043-35-3)			
Aquatic			
Fish	LC50	Razorback sucker (Xyrauchen texanus)	> 100 mg/l, 96 hours

Persistence and degradability	The product is not biodegradable.
Bioaccumulative potential	The product contains potentially bioaccumulating substances.
Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations.
Hazardous waste code	D011: Waste Silver
Waste from residues / unused products	Dispose of in accordance with local regulations. Scrapped material should be sent for refining to recover precious metal content. Solid metal and alloys in the form of particles may be reactive. Its hazardous characteristics, including fire and explosion, should be determined prior to disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Copper (CAS 7440-50-8)	LISTED
Silver (CAS 7440-22-4)	LISTED
Zinc (CAS 7440-66-6)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Silver	7440-22-4	20 - 72
Copper	7440-50-8	25 - 50
Zinc	7440-66-6	10 - 40
Zinc oxide	1314-13-2	1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)
Zinc (CAS 7440-66-6)

US. New Jersey Worker and Community Right-to-Know Act

Boric acid (CAS 10043-35-3)
Copper (CAS 7440-50-8)
Fluorides (CAS 16984-48-8)
Silver (CAS 7440-22-4)
Zinc (CAS 7440-66-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Copper (CAS 7440-50-8)
Fluorides (CAS 16984-48-8)
Potassium fluoroborate (CAS 14075-53-7)
Silver (CAS 7440-22-4)
Zinc (CAS 7440-66-6)

US. Rhode Island RTK

Copper (CAS 7440-50-8)
Silver (CAS 7440-22-4)
Zinc (CAS 7440-66-6)

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 07-July-2015

Revision date -

Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0
References	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Disclaimer	Harris Products Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. No warranty, expressed, or implied, is given.

SAFETY DATA SHEET

Issuing Date 13-Sept-2013 **Revision Date** 31-Mar-2015 **Revision Number** 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name **SCRUBS® In-A-Bucket**

Other means of identification

Product Code(s) **42201, 42230, 42256, 42272**

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Heavy Duty Hand Cleaner

Uses advised against None reasonably foreseeable

Supplier's details

Supplier Address
ITW Pro Brands
805 E. Old 56 Highway
Olathe, KS 66061
TEL: 1-800-443-9536

Emergency telephone number

Emergency Telephone Number 800-535-5053 Infotrac

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word	**None**

The product contains no substances which at their given concentration are considered to be hazardous to health

Appearance Colorless-blue/white **Physical State** Liquid. **Odor** Citrus

Precautionary Statements

Prevention

• None

General Advice

• None

Storage

• None

Disposal

• None

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

Toxic to aquatic life. Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Alcohols, C12-15, ethoxylated	68131-39-5	1-5	*
Isoparaffinic Hydrocarbon	64742-47-8	1-5	*
Dimethyl adipate	627-93-0	1-5	*
Diethylhexyl sodium sulfosuccinate	577-11-7	1-5	*
D-Limonene	5989-27-5	1-5	*

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact None normally required. Material is designed for skin cleansing. Get medical attention if irritation develops and/or persists.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Ingestion Not an expected route of exposure. If large quantities of this material are swallowed, call a physician immediately.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Not expected to give rise to an acute hazard under normal condition of use.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical. Carbon dioxide (CO_2). Foam. Water spray or fog.

Unsuitable Extinguishing Media None

Specific Hazards Arising from the Chemical
None in particular

Hazardous Combustion Products Carbon dioxide (CO_2). Carbon monoxide. Hydrocarbons. Hydrogen sulfide. Sulfur dioxide. Soot.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters
Use water spray to cool surrounding containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Avoid release to the environment. See Section 12 for additional Ecological Information Dispose of contents/container to an approved waste disposal plant.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Small spillage: Wipe up with absorbent material (e.g. cloth, fleece). Large spillage: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with eyes. Do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Keep container closed when not in use. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Do not contaminate food or feed stuffs. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Measures Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.
Skin and Body Protection No special protective equipment required.
Respiratory Protection None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	**Appearance**	Colorless-blue/white
Odor	Citrus	**Odor Threshold**	No information available

Property	Values	Remarks/ - Method
pH	6	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	212 °F	None known
Flash Point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	>1	None known
Relative Density	No data available	None known
Specific Gravity	0.995	None known
Water Solubility	Miscible with water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Not flammable

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) 0%

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Incompatible products.

Incompatible materials

Strong oxidizing agents. Strong acids.

Hazardous decomposition products

Carbon dioxide (CO_2). Carbon monoxide (CO). Hydrocarbons. Hydrogen sulfide. Sulfur dioxide. Soot.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Not an expected route of exposure
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	May cause mild skin irritation.
Ingestion	Not an expected route of exposure.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
D-Limonene		Group 3	-	-

IARC: (International Agency for Research on Cancer)
Group 3: Not Classifiable as to its Carcinogenicity to Humans

Reproductive Toxicity	This product does not contain any known or suspected reproductive hazards.
STOT - single exposure	None of the ingredients are known to cause specific target organ effects from a single exposure.
STOT - repeated exposure	None of the ingredients are known to cause specific target organ effects through prolonged or repeated exposure.
Aspiration Hazard	None of the ingredients are known to be an aspiration hazard.

Numerical measures of toxicity - Product

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral	42888 mg/kg; Acute toxicity estimate
LD50 Dermal	329859 mg/kg; Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Isoparaffinic Hydrocarbon 64742-47-8		LC50 96 h: = 45 mg/L flow-through (Pimephales promelas) LC50 96 h: = 2.2 mg/L static (Lepomis macrochirus) LC50 96 h: = 2.4 mg/L static (Oncorhynchus mykiss)		LC50 96 h: = 4720 mg/L (Den-dronereides heteropoda)
Diethylhexyl sodium sulfosuccinate 577-11-7		LC50 96 h: 20 - 40 mg/L semi-static (Oncorhynchus mykiss) LC50 96 h: < 24 mg/L static (Oncorhynchus mykiss) LC50 96 h: = 37 mg/L static (Lepomis macrochirus)		EC50 48 h: = 36 mg/L (Daphnia magna)
D-Limonene 5989-27-5		LC50 96 h: 0.619 - 0.796 mg/L flow-through (Pimephales promelas) LC50 96 h: = 35 mg/L (Oncorhynchus mykiss)		
Dimethyl glutarate 1119-40-0		LC50 96 h: 19.6-26.2 mg/L static (Pimephales promelas)		EC50 48 h: 122.1 - 163.5 mg/L (Daphnia magna)
1,3-Propanediol, 2,2-dimethyl- 126-30-7	EC50 72 h: > 1000 mg/L (Pseudokirchneriella subcapitata) EC50 72 h: > 500 mg/L (Desmodesmus subspicatus)	LC50 96 h: > 1000 mg/L semi-static (Oryzias latipes)		EC50 24 h: > 1000 mg/L (Daphnia magna)
Isopropyl myristate 110-27-0	EC50 72 h: > 100 mg/L (Desmodesmus subspicatus)	LC50 96 h: = 8400 mg/L (Brachydanio rerio) LC50 96 h: = 8400 mg/L semi-static (Brachydanio rerio)	-	EC50 48 h: = 100 mg/L (Daphnia magna)
2-Phenoxyethanol 122-99-6	EC50 72 h: > 500 mg/L (Desmodesmus subspicatus)	LC50 96 h: 337 - 352 mg/L flow-through (Pimephales promelas) LC50 96 h: = 366 mg/L static (Pimephales promelas) LC50 96 h: 220 - 460 mg/L static (Leuciscus idus)	EC50 = 32.4 mg/L 5 min EC50 = 880 mg/L 17 h	EC50 48 h: > 500 mg/L (Daphnia magna)
Propylene glycol 57-55-6	EC50 96 h: = 19000 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: = 51600 mg/L static (Oncorhynchus mykiss) LC50 96 h: 41 - 47 mL/L static (Oncorhynchus mykiss) LC50 96 h: = 51400 mg/L static (Pimephales promelas) LC50 96 h: = 710 mg/L (Pimephales promelas)	EC50 = 710 mg/L 30 min	EC50 24 h: > 10000 mg/L (Daphnia magna) EC50 48 h: > 1000 mg/L Static (Daphnia magna)
Glycerin 56-81-5	-	LC50 96 h: 51 - 57 mL/L static (Oncorhynchus mykiss)	-	EC50 24 h: > 500 mg/L (Daphnia magna)
Iodopropynyl butylcarbamate 55406-53-6		LC50 96 h: 0.049-0.079 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: 0.05-0.089 mg/L (Oncorhynchus mykiss) LC50 96 h: 0.14-0.32 mg/L flow-through (Lepomis macrochirus) LC50 96 h: 0.18-0.23 mg/L flow-through (Pimephales promelas)		

Persistence and Degradability No information available.

Bioaccumulation No information available.

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
D-Limonene	Toxic

14. TRANSPORT INFORMATION

DOT Not regulated

15. REGULATORY INFORMATION

International Inventories

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory. All components of this product are either listed or are exempt on the TSCA inventory.
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazard**	1	**Flammability**	0	**Instability**	0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	1	**Flammability**	0	**Physical Hazard**	0	**Personal Protection**	X

**Indicates a chronic health hazard.*

Prepared By	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
Issuing Date	13-Sep-2013
Revision Date	31-Mar-2015
Revision Note	Initial Release.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 23-Dec-2013 **Revision Date** 22-Jan-2014 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name **SCRUBS® Solar Guard™ Sunscreen Wipe**

Other means of identification

Product Code(s) **91201**

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Sunscreen

Uses advised against None reasonably foreseeable

Supplier's details

Supplier Address
ITW Pro Brands
805 E. Old 56 Highway
Olathe, KS 66061
TEL: 1-800-443-9536

Emergency telephone number

Emergency Telephone Number 800-535-5053 Infotrac

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

Skin Sensitization	Category 1
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word **Danger**

Hazard Statements

• May cause an allergic skin reaction

•

• Highly flammable liquid and vapor.

Appearance Yellow **Physical State** Liquid. **Odor** Spice

Precautionary Statements

Prevention

• Avoid breathing dust/fume/gas/mist/vapors/spray
• Contaminated work clothing should not be allowed out of the workplace
• Keep away from heat/sparks/open flames/hot surfaces - No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge
• Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

• None

Skin

• If skin irritation or rash occurs: Get medical advice/attention
• Wash contaminated clothing before reuse
• IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Fire

• In case of fire: Use CO2, dry chemical, or foam for extinction.

Storage

• Store in a well-ventilated place. Keep cool.

Disposal

• Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

Toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Ethanol	64-17-5	60-100	*
2-Hydroxy-4-methoxybenzophenone	131-57-7	3 -7	*

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact None normally required. Wash skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Not an expected route of exposure. Move to fresh air. If symptoms persist, call a physician.

Ingestion Not an expected route of exposure. If large quantities of this material are swallowed, call a physician immediately.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Not expected to give rise to an acute hazard under normal condition of use.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Carbon dioxide (CO_2). Foam.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO_2). Hydrogen sulfide. Sulfur dioxide. Soot.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. High risk of slipping due to leakage/spillage of product. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Avoid release to the environment. See Section 12 for additional Ecological Information. Dispose of contents/container to an approved waste disposal plant.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Small spillage: Wipe up with absorbent material (e.g. cloth, fleece). Large spillage: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Keep container closed when not in use. Keep container tightly closed in a dry and well-ventilated place. Do not contaminate food or feed stuffs. Keep out of the reach of children. Keep away from heat and sources of ignition.

Incompatible Products Strong oxidizing agents. Acids. Isocyanates. Chlorine. Ethylene oxide.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m^3	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m^3

Appropriate engineering controls

Engineering Measures Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required. Avoid contact with eyes.
Skin and Body Protection No special protective equipment required.
Respiratory Protection None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Appearance Yellow
Odor Spice
Odor Threshold No information available

Property	Values	Remarks/ - Method
pH	6.7	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	82.222 °C / 180 °F	None known
Flash Point	16.667 °C / 62 °F	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	

Vapor Pressure	No data available	None known
Vapor Density	> 1 (air = 1)	None known
Relative Density	No data available	None known
Specific Gravity	0.856	None known
Water Solubility	Miscible with water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Not flammable

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) 73.99%

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Ignitions sources - heat, sparks and open flames. Incompatible products.

Incompatible materials

Strong oxidizing agents. Acids. Isocyanates. Chlorine. Ethylene oxide.

Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen sulfide. Sulfur dioxide. Smoke. Soot.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	No known hazard in contact with skin.
Ingestion	Not an expected route of exposure. May be harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol	A3	Group 1	Known	X

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product
The following values are calculated based on chapter 3.1 of the GHS document:
LD50 Oral 7079 mg/kg; Acute toxicity estimate
Inhalation
dust/mist 124.7 mg/L; Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethanol 64-17-5		LC50 96 h: 12.0 - 16.0 mL/L static (Oncorhynchus mykiss) LC50 96 h: > 100 mg/L static (Pimephales promelas) LC50 96 h: 13400 - 15100 mg/L flow-through (Pimephales promelas)	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	LC50 48 h: 9268 - 14221 mg/L (Daphnia magna) EC50 24 h: = 10800 mg/L (Daphnia magna) EC50 48 h: = 2 mg/L Static (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Ethanol	-0.32

Other Adverse Effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with federal, state, and local regulations

Contaminated Packaging Do not re-use empty containers.

Chemical Name	California Hazardous Waste
Ethanol	Toxic Ignitable

14. TRANSPORT INFORMATION

Note: Although this product meets the definition of UN3175, it is exempt as a small sealed article or packet containing <10ml of fully absorbed liquid. USDOT SP 47, UN SP 216, IATA/ICAO SP A46, TDG SP 56.

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals: Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Developmental

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Ethanol	X	X	X		

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazard**	1	**Flammability**	3	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	1	**Flammability**	3	**Physical Hazard** 0	**Personal Protection**	X

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 23-Dec-2013
Revision Date 23-Dec-2013
Revision Note Initial Release.

General Disclaimer

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End of Safety Data Sheet

SAFETY DATA SHEET

Issuing Date 23-Dec-2013 **Revision Date** 22-Jan-2014 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name **SCRUBS® Solar Guard™ Sunscreen Wipe**

Other means of identification

Product Code(s) **91201**

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Sunscreen

Uses advised against None reasonably foreseeable

Supplier's details

Supplier Address
ITW Pro Brands
805 E. Old 56 Highway
Olathe, KS 66061
TEL: 1-800-443-9536

Emergency telephone number

Emergency Telephone Number 800-535-5053 Infotrac

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

Skin Sensitization	Category 1
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word **Danger**

Hazard Statements

• May cause an allergic skin reaction

•

• Highly flammable liquid and vapor.

Appearance Yellow **Physical State** Liquid. **Odor** Spice

Precautionary Statements

Prevention

• Avoid breathing dust/fume/gas/mist/vapors/spray
• Contaminated work clothing should not be allowed out of the workplace
• Keep away from heat/sparks/open flames/hot surfaces - No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge
• Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

• None

Skin

• If skin irritation or rash occurs: Get medical advice/attention
• Wash contaminated clothing before reuse
• IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Fire

• In case of fire: Use CO2, dry chemical, or foam for extinction.

Storage

• Store in a well-ventilated place. Keep cool.

Disposal

• Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

Toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Ethanol	64-17-5	60-100	*
2-Hydroxy-4-methoxybenzophenone	131-57-7	3 -7	*

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact None normally required. Wash skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Not an expected route of exposure. Move to fresh air. If symptoms persist, call a physician.

Ingestion Not an expected route of exposure. If large quantities of this material are swallowed, call a physician immediately.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Not expected to give rise to an acute hazard under normal condition of use.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Carbon dioxide (CO_2). Foam.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO_2). Hydrogen sulfide. Sulfur dioxide. Soot.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. High risk of slipping due to leakage/spillage of product. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Avoid release to the environment. See Section 12 for additional Ecological Information. Dispose of contents/container to an approved waste disposal plant.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Small spillage: Wipe up with absorbent material (e.g. cloth, fleece). Large spillage: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Keep container closed when not in use. Keep container tightly closed in a dry and well-ventilated place. Do not contaminate food or feed stuffs. Keep out of the reach of children. Keep away from heat and sources of ignition.

Incompatible Products Strong oxidizing agents. Acids. Isocyanates. Chlorine. Ethylene oxide.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m^3	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m^3

Appropriate engineering controls

Engineering Measures Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required. Avoid contact with eyes.
Skin and Body Protection No special protective equipment required.
Respiratory Protection None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Appearance Yellow
Odor Spice
Odor Threshold No information available

Property	Values	Remarks/ - Method
pH	6.7	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	82.222 °C / 180 °F	None known
Flash Point	16.667 °C / 62 °F	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	

Vapor Pressure	No data available	None known
Vapor Density	> 1 (air = 1)	None known
Relative Density	No data available	None known
Specific Gravity	0.856	None known
Water Solubility	Miscible with water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Not flammable

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) 73.99%

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Ignitions sources - heat, sparks and open flames. Incompatible products.

Incompatible materials

Strong oxidizing agents. Acids. Isocyanates. Chlorine. Ethylene oxide.

Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen sulfide. Sulfur dioxide. Smoke. Soot.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	No known hazard in contact with skin.
Ingestion	Not an expected route of exposure. May be harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol	A3	Group 1	Known	X

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product
The following values are calculated based on chapter 3.1 of the GHS document:
LD50 Oral 7079 mg/kg; Acute toxicity estimate
Inhalation
dust/mist 124.7 mg/L; Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethanol 64-17-5		LC50 96 h: 12.0 - 16.0 mL/L static (Oncorhynchus mykiss) LC50 96 h: > 100 mg/L static (Pimephales promelas) LC50 96 h: 13400 - 15100 mg/L flow-through (Pimephales promelas)	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	LC50 48 h: 9268 - 14221 mg/L (Daphnia magna) EC50 24 h: = 10800 mg/L (Daphnia magna) EC50 48 h: = 2 mg/L Static (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Ethanol	-0.32

Other Adverse Effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with federal, state, and local regulations

Contaminated Packaging Do not re-use empty containers.

Chemical Name	California Hazardous Waste
Ethanol	Toxic Ignitable

14. TRANSPORT INFORMATION

Note: Although this product meets the definition of UN3175, it is exempt as a small sealed article or packet containing <10ml of fully absorbed liquid. USDOT SP 47, UN SP 216, IATA/ICAO SP A46, TDG SP 56.

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals: Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Developmental

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Ethanol	X	X	X		

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazard**	1	**Flammability**	3	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazard**	1	**Flammability**	3	**Physical Hazard** 0	**Personal Protection**	X

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 23-Dec-2013
Revision Date 23-Dec-2013
Revision Note Initial Release.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

MSDS Material Safety Data Sheet
AIOD

SERVICE PRO GLASS AND UTILITY CLEANER

MSDS Number: SP4120 Revision Date: 10/11/2012

1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Manufactured For:
AIOD
P.O. Box 1861
MONTROSE, CO 81402

Phone: (970) 249-6336
Fax: (970) 240-4131

Product Name: SERVICE PRO GLASS AND UTILITY CLEANER
Revision Date: 10/11/2012
Version: 4
MSDS Number: SP4120
Common Name: AEROSOL GLASS CLEANER CONTAINING ISOPROPANOL

EMERGENCY PHONE NUMBER (800) 752-7869

2 HAZARDS IDENTIFICATION

Route of Entry: Skin absorption and inhalation
Target Organs: None Known
Inhalation: Respiratory irritation and dizziness
Skin Contact: Prolonged contact with skin can cause irritation. Repeated skin contact may cause persistent irritation and dermatitis
Eye Contact: Will cause irritation upon contact.
Ingestion: Product may cause discomfort, nausea, vomiting and diarrhea.

CARCINOGENICITY: Product is not considered a carcinogen by OSHA, NTP or IARC.
MEDICAL CONDITIONS: Pre-existing eye or skin conditions may be aggravated by over-exposure to this product.

NFPA: Health = 1, Fire = 2, Reactivity = 0

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

INGREDIENT	CAS NUMBER	PERCENT WEIGHT
ISOPROPANOL	67-63-0	1-5%
2-BUTOXYETHANOL	111-76-2	1-5%
ISOBUTANE(PROPELLANT)	75-28-5	3-7%

4 FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Seek medical attention.
Skin Contact: Wash area with soap and water. Seek medical attention if irritation persists
Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Seek medical attention.
Ingestion: DO NOT induce vomiting. Only give CONSCIOUS victim two glasses of water and seek medical attention. NEVER give UNCONSCIOUS anything by mouth.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon Dioxide (CO2) Dry Chemical, Foam.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and can collect in low areas
FIRE FIGHTING INSTRUCTIONS: Containers can build up pressure if exposed to fire. Containers should be cooled with water supply.
FIRE FIGHTING EQUIPMENT: Self- contained breathing apparatus with full face piece operated in positive pressure mode.

6 ACCIDENTAL RELEASE MEASURES

SPILL/LEAK PROCEDURES: Notify safety personnel, evacuate all unnecessary personnel and provide adequate ventilation. If feasible, and without risk, clean-up personnel should stop leak. All clean up personnel should wear proper personal protective equipment.
SMALL SPILLS: Clean with inert absorbent and place in recovery drums for disposal.
LARGE SPILLS: Dike to prevent further migration of material. DO NOT release into waterways or sewers. Follow applicable federal and state regulations.

7 HANDLING AND STORAGE

Handling Precautions:	Wash thoroughly after handling. Do not get into eyes, on skin or on clothing. Do not smoke while using this product. Do not use near excessive heat, sparks, or open flame.
Storage Requirements:	Store in clean, dry locations away from excessive heat. Store in areas designated for the storage of Level II aerosols according to NFPA 30B (Manufacturing and Storage of Aerosol Products.)

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Eye wash station and safety shower. Strong general ventilation or local exhaust.
Personal Protective Equip:	EYE: Chemical splash goggles with indirect or no ventilation. SKIN: Chemical resistant gloves, such as nitrile. RESPIRATORY: Organic vapor air purifying respirator if vapors are a nuisance or if the concentrations are above PEL or TLV.

Never eat, drink or smoke in work area

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White opaque		
Physical State:	liquid	**Odor:**	Ammonia odor
Spec Grav./Density:	0.785 - 0.870	**Solubility:**	Completey soluble in water
Boiling Point:	>212 F	**Freezing/Melting Pt.**	<32 F
Vapor Pressure:	22-181 mmHG	**Vapor Density:**	>1

10 STABILITY AND REACTIVITY

Stability:	Material is stable.
Conditions to Avoid:	Excessive heat and open flame.
Materials to Avoid:	Strong oxidizing agents.
Hazardous Decomposition:	Carbon Monoxide and Carbon Dioxide
Hazardous Polymerization:	Cannot occur.

11 TOXICOLOGICAL INFORMATION

LD50
ISOPROPANOL 5.8 g/km (oral)

12 ECOLOGICAL INFORMATION

No data.

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable state, federal and local regulations.

14 TRANSPORT INFORMATION

DOMESTIC:
Limited Quantity

EXPORT:
AEROSOL DISPENSERS, CLASS 2.1 UN1950, IMCO 9.0, pAGE 9022

15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS
OSHA: Considered to be a hazardous material as defined by 29CFR1910.1200

EPA SARA TITLE III

Section 311-312 (40CFR370): If stored in excess of the threshold quantities, this product should be reported as a(n):
IMMEDIATE (acute) HEALTH HAZARD
DELAYED (chronic) HEALTH HAZARD
SUDDEN RELEASE HAZARD

Section 313(40CFR372) This product contains ingredients which are subject to the reporting requirements of SARA 313:

2 Butoxyethanol

16 OTHER INFORMATION

CALIFORNIA PROPOSITION 65: This product does not contain a chemical known to the State of California to cause cancer, birth defects and other reproductive harm:

Notes:
NG=NOT GIVEN
<=LESS THAN
>=GREATER THAN

USERS RESPONSIBILITY: This MSDS provides environmental, health and safety information. This product is to be used in applications consistent with our product literature and container label. Individuals handling this product should be informed to the recommended safety precautions and have access to this MSDS. Please contact your local sales representative or our EH&S Department for further information.

Disclaimer:
Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

This information is given in good faith and based on our current knowledge of the product.

END MSDS

MSDS Material Safety Data Sheet
AIOD

SERVICE PRO HEAVY DUTY STARTING FLUID SP5315

MSDS Number: SP5315 Revision Date: 08/08/2007

1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

AIOD
ASSOCIATION OF INDEPENDENT OIL DISTRIBUTORS
700 S. CASCADE
MONTROSE, CO 81401

Contact:
Telephone Number: (970) 249-6336
FAX Number: (970) 240-4131
E-Mail:
Web

Product Name:	SERVICE PRO HEAVY DUTY STARTING FLUID SP5315
Revision Date:	08/08/2007
MSDS Number:	SP5315
Common Name:	AEROSOL STARTING FLUID CONTAINING DIETHYL ETHER

EMERGENCY PHONE NUMBER (800) 752-7869

NFPA 704M RATING :

HEALTH:2 FIRE:4 REACTIVITY: 0 SPECIAL:

O=INSIGNIFICANT 1=SLIGHT 2=MODERATE 3=HIGH 4=EXTREME

2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT WEIGHT
DIETHYL ETHER	60-29-7	45-55%
n-HEPTANE	142-82-5	38-51%
CARBON DIOXIDE	124-38-9	4-7%

3 HAZARDS IDENTIFICATION

Route of Entry:	Skin absorption and inhalation
Target Organs:	Lungs, kidneys, liver and nervous system.
Inhalation:	Respiratory irritation and dizziness
Skin Contact:	Prolonged contact with skin can cause irritation. Repeated skin contact may cause persistent irritation and dermatitis
Eye Contact:	Will cause irritation upon contact.
Ingestion:	Product may cause discomfort, nausea,vomiting and diarrhea.

CARCINOGENICITY: Product is not considered a carcinogen by OSHA, NTP or IARC.
MEDICAL CONDITIONS: Pre-existing eye or skin conditions may be aggravated by over-exposure to this product.

4 FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Seek medical attention.
Skin Contact: Wash area with soap and water. seek medical attention if irritation persists
Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Seek medical attention.
Ingestion: DO NOT induce vomiting. Only give CONSCIOUS victim two glasses of water and seek medical attention. NEVER give UNCONSCIOUS anything by mouth.

5 FIRE FIGHTING MEASURES

Flash Point: <-56 degrees F
Flash Point Method: TCC

EXTINGUISHING MEDIA: Carbon Dioxide (CO2) Dry Chemical, Foam.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and can collect in low areas
FIRE FIGHTING INSTRUCTIONS: Containers can build up pressure if exposed to fire. Containers should be cooled with water supply.
FIRE FIGHTING EQUIPMENT: Self- contained breathing apparatus with full face piece operated in positive pressure mode.

6 ACCIDENTAL RELEASE MEASURES

SPILL/LEAK PROCEDURES: Notify safety personnel ,evacuate all unnecessary personnel and provide adequate ventilation. If feasible, and without risk,clean-up personnel should stop leak. All clean up personnel should wear proper personal protective equipment.
SMALL SPILLS:Clean with inert absorbent and place in recovery drums for disposal.
LARGE SPILLS: Dike to prevent further migration of material. DO NOT release into waterways or sewers. Follow applicable federal and state regulations.

7 HANDLING AND STORAGE

Handling Precautions: Wash thoroughly after handling. Do not get into eyes, on skin or on clothing.. Do not smoke while using this product.Do not use near excessive heat, sparks, or open flame.
Storage Requirements: Store in clean, dry locations away from excessive heat. Store in areas designated for the storage of Level III aerosols according to NFPA 30B (Manufacturing and Storage of Aerosol Products.)

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Eye wash station and safety shower.
Strong general ventilation or local exhaust.
Protective Equipment: EYE: Chemical splash goggles with indirect or no ventilation.
SKIN :Chemical resistant gloves, such as nitrile.
RESPIRATORY: Organic vapor air purifying respiator if vapors are a nuisance or if the concentrations are above PEL or TLV.

Exposure Guidelines/Other: Never eat, drink or smoke in work area

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pale yellow		
Physical State:	liquid	**Boiling Point:**	94 F
Odor:	strong ether odor	**Freezing/Melting Pt.:**	
pH:		**Solubility:**	Not soluble in water
Vapor Pressure:	44.0 - 125.0 mmHG	**Spec Grav./Density:**	0.70
Vapor Density:	>1.0		

VOC: 94.5%

10 STABILITY AND REACTIVITY

Stability:	Material is stable.
Conditions to avoid:	Excessive heat and open flame.
Materials to avoid (incompatability):	Strong oxidizing agents.
Hazardous Decomposition products:	Carbon Monoxide and Carbon Dioxide
Hazardous Polymerization:	Cannot occur.

11 TOXICOLOGICAL INFORMATION

LD50
n-Heptane: 103 gm/m3/4H (inhalation)

LD50
Diethyl Ether: 1215 mg/lg (Oral)

12 ECOLOGICAL INFORMATION

No data.

13 DISPOSAL CONSIDERATIONS

As a waste, this product in its raw form DOES MEET the criteria of a hazardous waste as defined by RCRA (40CFR361). As a waste this product can be fuel blended at a fuel blending facility.
Dispose of in accordance with all applicable state, federal and local regulations.

14 TRANSPORT INFORMATION

DOMESTIC:
Aerosols, 2.1,UN1950,PGII, Limited Quantity
EXPORT:
Aerosol Dispensers,Class 2.1, UN1950,IMCO 9.0 , Page 9022

15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS
OSHA: Considered to be a hazardous material as defined by 29CFR1910.1200

EPA SARA TITLE III

Section 311-312 (40CFR370): If stored in excess of the threshold quantities, this product should be reported as a(n):
IMMEDIATE (acute) HEALTH HAZARD
DELAYED (chronic) HEALTH HAZARD
FIRE HAZARD
SUDDEN RELEASE HAZARD

Section 313(40CFR372) This product contains ingredients which are subject to the reporting requirements of SARA 313:
n-Heptane

16 OTHER INFORMATION

CALIFORNIA PROPOSITION 65: This product does not contain ingredients which are on the current Proposition 65 list.
Notes:
NG= NOT GIVEN
BT= BETWEEN
<= LESS THAN
>= GREATER THAN

USERS RESPONSIBILITY;This MSDS provides environmental, health and safety information. This product is to be used in applications consistent with our product literature and container label. Individuals handling this product should be informed to the recommended safety precautions and have access to this MSDS. Please contact your local sales representative or our EH&S Department for further information.

END OF MSDS

END OF MSDS DOCUMENT

SANFORD BRANDS

A Newell Rubbermaid Company

MATERIAL SAFETY DATA SHEET

MSDS # 30000

Section One: Identification

Sanford, L.P.
2707 Butterfield Road
Oak Brook, IL 60523 USA
800-323-0749 or 630-481-2000

EMERGENCY MEDICAL NUMBER:

888-786-0972

Product Name: Sharpie Fine Point Permanent Markers

Colors: All Colors

Sanford is a member of The Art and Creative Materials Institute, Inc. This product is certified by the Institute to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236 and is labeled with the AP Non Toxic Seal. Products bearing the AP Approved Product Seal of The Art and Creative Materials Institute, Inc. are certified in a program of toxicological evaluation by a medical expert, subject to review by the Institute Toxicology Advisory Board, to contain no materials in sufficient quantities to be toxic or injurious to humans, or to cause acute toxicity or chronic health problems.

Section Two: Hazard Identification

This product is considered safe under normal use conditions.

Section Three: Composition

Dyes, n-propanol (71-23-8), n-butanol (71-36-3), diacetone alcohol (123-42-2)

Section Four: First Aid Measures

Inhalation: This product is considered safe under normal use conditions.

Skin Contact: This product is considered safe under normal use conditions.

Eye Contact: This product is considered safe under normal use conditions.

Ingestion: This product is considered safe under normal use conditions.

Section Five: Fire Fighting Measures

Flash Point: 84F Tag Open Cup (ASTM D-1310)

Flammability Limits (% by volume): Lower: 2.2% in air by volume Upper: 14.0% in air by volume

Extinguishing Media: As appropriate for surrounding area.

Special Fire Fighting Measures: None

Unusual Fire and Explosion Hazards: None

Section Six: Accidental Release Measures

In Case of Spill or Accidental Release: Wipe up with absorbent material.

Section Seven: Handling and Storage

Handling: Do not shake marker.

Storage: Keep cap on marker when not in use.

Section Eight: Exposure Controls and Personal Protection

Eye Protection: None under normal use conditions.

Clothing: None under normal use conditions.

Respirator: None under normal use conditions.

Ventilation: None under normal use conditions.

Section Nine: Physical and Chemical Properties

For ink unless otherwise specified:

Boiling Point:	207F (n-propanol)
Specific Gravity:	0.80 (n-propanol)
Vapor Pressure:	13 mm Hg at 20C (n-propanol)
Solubility in Water:	Soluble
Evaporation Rate:	1.3 (n-propanol)
Appearance/Odor:	Colored liquid; alcoholic odor

Section Ten: Stability and Reactivity

Stability:	Stable
Conditions to Avoid:	Not available
Chemical Incompatibility:	Not available
Hazardous Decomposition:	Not available
Hazardous Polymerization:	Will not occur.

Section Eleven: Toxicological Information

See Section Two: Hazard Identification for any hazards

Section Twelve: Ecological Information

Not available

Section Thirteen: Disposal Considerations

Dispose in accordance with Federal, State, and Local Regulations.

Section Fourteen: Transport Information

DOT:	Not regulated
IATA:	Not regulated
IMO:	Not regulated

Section Fifteen: Regulatory Information

TSCA: The product listed on this Material Safety Data Sheet is not listed on the Toxic Substances Control Act Inventory. All ingredients used to manufacture this product are listed on the TSCA Inventory

Section Sixteen: Other Information

HMIS Code	
Health	N/A
Flammability	N/A
Reactivity	N/A
Personal Protection	N/A

0=Minimal / 4 = Severe

Sanford has been advised by Counsel that the OSHA Hazard Communication Standard does not apply to the Sanford Product described in this Material Safety Data Sheet. The reason for the exemption is contained in 29 CFR 1910.1200(b)(6)(ix) as amended July 1, 2006 per the Code of Federal Regulations. The information contained in this MSDS is forwarded to you for your information, but is not meant to imply that the product is covered by the Hazard Communication Standard nor is this MSDS meant to comply with all requirements of the Hazard Communication Standard.

Newell Rubbermaid Brands That Matter | Office Products Group

MATERIAL SAFETY DATA SHEET

MSDS # 27000

Section One: Identification

Sanford, L.P.
2707 Butterfield Road
Oak Brook, IL 60523 USA
800-323-0749 or 630-481-2000

EMERGENCY MEDICAL NUMBER:
888-786-0972

Product Name: Sharpie Accent Highlighters – Tank, Generation, Pocket, Mini, Grip, Liquid Pen, Jumbo, Retractable, and Bladetip

Colors: All Colors

NewellRubbermaid, Inc (Sanford L.P.) is a member of The Art and Creative Materials Institute, Inc. This product is certified by the Institute to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236 and is labeled with the AP Non Toxic Seal. Products bearing the AP Approved Product Seal of The Art and Creative Materials Institute, Inc. are certified in a program of toxicological evaluation by a medical expert, subject to review by the Institute Toxicology Advisory Board, to contain no materials in sufficient quantities to be toxic or injurious to humans, or to cause acute toxicity or chronic health problems.

Section Two: Hazard Identification

This product is not hazardous under normal use conditions. Not for use on skin. Do not ingest. Avoid contact with eyes.

Section Three: Composition

Water, glycerol (56-81-5), glycols (111-46-6, 57-55-6, 25322-68-3), dyes, additives

Section Four: First Aid Measures

Inhalation: Not hazardous by inhalation.

Skin Contact: Wash skin with soap and water.

Eye Contact: Rinse eye with water for at least 15 min. If irritationn persists seek medical attention.

Ingestion: Seek medical attention.

Section Five: Fire Fighting Measures

Flash Point: N/A

Flammability Limits (% by volume): Lower: Not explosive Upper: Not explosive

Extinguishing Media: As appropriate for surrounding area

Special Fire Fighting Measures: None

Unusual Fire and Explosion Hazards: None

Section Six: Accidental Release Measures

In Case of Spill or Accidental Release: Wipe up with absorbent material

Section Seven: Handling and Storage

Handling: Do not shake marker

Storage: Keep cap on marker when not in use

Section Eight: Exposure Controls and Personal Protection

Eye Protection: None under normal use conditions.

Clothing: None under normal use conditions.

Respirator: None under normal use conditions.

Ventilation: None under normal use conditions.

Section Nine: Physical and Chemical Properties

Boiling Point:	N/A
Specific Gravity:	N/A
Vapor Pressure:	Not determined
Solubility in Water:	Soluble
Evaporation Rate:	Not determined
Appearance/Odor:	Colored ink; no odor

Section Ten: Stability and Reactivity

Stability:	Stable
Conditions to Avoid:	None known
Chemical Incompatibility:	None known
Hazardous Decomposition:	None known
Hazardous Polymerization:	Will not occur

Section Eleven: Toxicological Information

See Section Two: Hazard Identification for any hazards

Section Twelve: Ecological Information

Not available

Section Thirteen: Disposal Considerations

Dispose in accordance with Federal, State, and Local Regulations.

Section Fourteen: Transport Information

Refer to Shipping Papers, if applicable.

Section Fifteen: Regulatory Information

TSCA: The product listed on this Material Safety Data Sheet is not listed on the Toxic Substances Control Act Inventory. All ingredients used to manufacture this product are listed on the TSCA Inventory

Section Sixteen: Other Information

HMIS Code	
Health	N/A
Flammability	N/A
Reactivity	N/A
Personal Protection	N/A

0=Minimal / 4 = Severe

NewellRubbermaid, Inc (Sanford L.P) has been advised by Counsel that the OSHA Hazard Communication Standard and the Health Canada Workplace Hazardous Materials Information Standard do not apply to the product described in this Material Safety Data Sheet. The reasons for the exemptions are contained in 29 CFR 1910.1200(b)(6)(ix) as amended Sept 14, 2009 per the Code of Federal Regulations and also Canadian Hazardous Products Act part 12 section (f) as amended June 1, 2009. The information contained in this MSDS is forwarded to you for your information, but is not meant to imply that the product is covered by nor is this MSDS meant to comply with all requirements of the hazard communication standards.

PRODUCT DATA SHEET

Section 1. Identification

Product name : Sharpie® King Size Permanent Markers

Material uses : Writing instruments

Manufacturer : Newell Brands
3500 Lacey Road, 10th Floor
Downers Grove, IL 60515
USA
800-323-0749 or 630-829-2500

Emergency telephone number (with hours of operation) : ProPharma 1-888-786-0972

Section 2. Hazards Identification

Classification of the Product

Product(s) certified as non-toxic by the Art and Creative Materials Institute, Inc. Conforms to ASTM D-4236 standard practice for labeling art materials for acute and chronic adverse health hazards.

GHS label elements

Hazard pictograms : None

Signal word : None

Hazard statements : Product(s) certified as non-toxic by the Art and Creative Materials Institute, Inc.

Precautionary statements

General : Read label before use. If medical advice is needed, have product container or label at hand. Avoid all possible sources of ignition (spark or flame).

Prevention : Wash hands thoroughly after handling.

Response : IF ON SKIN: Wash with soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical attention.
IF IN EYES: Rinse with water. If eye irritation persists: Get medical attention.

Storage : Not applicable. No special requirements.

Disposal : Not applicable. No special requirements.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Product(s) certified as non-toxic by the Art and Creative Materials Institute, Inc. Product(s) meet U.S. OSHA GHS Hazard Communication Standard 'consumer product' exemption in 29 C.F.R. section 1910.1200(b)(6)(ix).	100	Not Applicable

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

Inhalation : It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin contact : It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Ingestion : Contact local poison control center or physician immediately

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and contact with soil, waterways, drains and sewers.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Keep in the original container. Keep closed when not in use.

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures : Wash hands after use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid containing liquid

Color : Color Variety

Odor : Alcohol-like

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Not available.

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : Not available.

Solubility : Ink is soluble.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Ink resembles water.

Section 10. Stability and Reactivity

Reactivity : Under normal conditions of storage and use, hazardous reactions will not occur.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Strong oxidizers.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products will not be produced.

Section 11. Toxicological information

Information on toxicological effects

Delayed and immediate effects and also chronic effects from short and long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 12. Ecological information

Persistence and degradability

No known significant effects or critical hazards.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Avoid dispersal of material into contact with soil, waterways, drains and sewers.

Section 14. Transport information

Transport Class : Not Available

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

California Prop. 65 : This product does not contain Chemicals known to State of California to cause cancer, birth defects, or reproductive harm.

Federal Hazardous Substances Act Statement : Per the published Federal Hazardous Substances Act (FHSA) requirements, these products do not require additional labeling

Section 16. Other information

History

Date of issue/Date of revision : 6/3/2016.

Date of previous issue : No previous validation.

Version : 1

Prepared by : Product Safety.

Section 16. Other information

Sharpie® King Size Permanent Markers carry the AP Seal. The AP Certification Seal signifies that the product has been examined by an independent, certified toxicologist from Duke University Medical Center as administered through The Art & Creative Materials Institute, Inc. (ACMI). When a product bears the AP seal, it means the examination concluded that no toxins are present in sufficient quantities to be toxic or injurious to people, when used as intended, or to cause acute or chronic health problems. In other words, the product meets the Federal safety standard for art materials. When you see the AP seal imprinted on our product you can be confident that your product is safe.

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations. The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations. The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Material Safety Data Sheet

MSDS No: 221-01

Sanford Corporation
2740 Washington Blvd.
Bellwood, IL 60104

Telephone No: 1-800-323-0749
Initiated By: Jamie Paulin
Date of Last Revision: 06/21/2000
Medical Emergency No: 1-800-228-5635

Section 1 - Product Identification

Product Name: Sharpie ® Industrial Extra Fine Point and Fine Point Permanent Marker
Colors: Black

Section 2 - Composition

Dyes, ethylene glycol monobutyl ether (111-76-2), ethylene glycol monoethyl ether (110-80-5), ethyl alcohol (64-17-5)

Section 3 - Physical / Chemical Characteristics

For ethylene glycol monoethyl ether:

Boiling Point:	273 - 277 F at 760 mm Hg
Vapor Pressure (mm Hg):	4.0 mm Hg at 68 F
Specific Gravity:	0.929 0.931 at 68 F
Solubility in Water:	Not available
Appearance / Odor:	Mobile clear liquid; glycol ether odor
Evaporation Rate:	Less than 0.32 (butyl acetate = 1)

Section 4 - Fire and Explosion Hazard Data

Flash Point (Method Used): 110 F (PMCC)
Flammability Limits (% by volume): Lower: 1.8% Upper: 15.6%

Extinguishing Medium: N/A

Special Fire Fighting Procedures: N/A

Unusual Fire and Explosion Hazards: N/A

Section 5 - Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not available
Chemical Incompatibility:	Not available
Hazardous Decomposition:	Not available
Hazardous Polymerization:	Will not occur

Section 6 - Health Hazard Data

Chemical Listed as Carcinogen or Potential Carcinogen:

IARC Monographs:	No
National Toxicology Program:	No
OSHA Regulated:	No

The product is considered safe when used under normal use conditions.

Section 7 - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:	Wipe up with absorbent material and discard in accordance with Federal, State, and Local Regulations.
Waste Disposal Method:	In accordance with Federal, State, and Local Regulations.
Precautions to be Taken in Handling and Storing:	Do not shake marker. Keep cap on marker when not in use.
Other Precautions:	None

Section 8 - Personal Protection and Exposure Control Measures

Eye Protection:	None under normal use conditions.
Skin Protection:	None under normal use conditions.
Respiratory Protection:	None under normal use conditions.
Ventilation:	None under normal use conditions.
Protective Clothing:	None under normal use conditions.

HMIS Code	
Health	N/A
Flammability	N/A
Reactivity	N/A
Personal Protection	N/A

0 = Minimal / 4 = Severe Hazard

Sanford Corporation has been advised by council that the OSHA Hazard Communication Standard does not apply to the Sanford Product described in this MSDS. The reason for the exemption is contained in 29 CFR, Part 1910.1200, (b) (6) (ix), as amended July 1, 1994 per the Code of Federal Regulations. The information contained in this MSDS is forwarded to you for your information but is not meant to imply that the product is covered by the Hazard Communication Standard nor is the MSDS meant to comply with all requirements of the Hazard Communication Standard.

TAYLOR

Safety Data Sheet

Shaw 4030 Vinyl Composition Tile Adhesive

Revision date: Oct. 27, 2015

Version: 1

1. Identification

Shaw 4030 Vinyl Composition Tile Adhesive

Recommended use of the chemical and restriction on use: interior installation of flooring material over approved subfloors – asphalt and vinyl composition tiles and closed cell foam back hardwood parquet.

Details of the supplier of the safety data sheet

Manufactured for: Shaw Industries
P.O. Drawer 2128
Dalton, GA

Company:
W.F.Taylor LLC
11545 Pacific Avenue
Fontana, CA 92337, USA

Telephone number: (800) 397-4583

Emergency Telephone Number: 1-800-535-5053

Other Means of Identification

Chemical Family: Synthetic latex and Hydrocarbon resin blend

2. Hazards identification

According to regulation 2012 OSHA Hazard Communication Standard : 29 CFR Part 1910.1200

Classification of the Product:
No need for classification according to GHS criteria for this product.

Label Elements
This product does not require a hazard warning label in accordance with GHS criteria.

Hazards not otherwise classified
None known if used according to instructions. Irritation may occur when in contact with eyes and skin.

Emergency Overview

Caution:
May cause skin irritation if not removed after skin contact.
Use with Use with local exhaust ventilation.
Use protective equipment for eyes, skin protection.

---

3. Composition / Information on Ingredients

According to Regulation 1994 OSHA Hazard Communication Standard : 29 CFR Part 1910.1200

This product does not contain any components classified as hazardous under the referenced regulation.

According to Regulation 1994 OSHA Hazard Communication Standard : 29 CFR Part 1910.1200

CAS number	Content	Chemical Name
Trade Secret	5-20	Tackifier resin
Trade Secret	1-10	SBR latex
1332-58-7	5-10	Kaolin Clay
7732-18-5	40-50	Water

---

4. First Aid Measures

Description of First Aid measures

General Advice:
Upon contact, remove material from skin, eyes, and clothing. If irritation persists, seek medical attention.

If inhaled:
Remove individual to fresh air if needed.

If on Skin:

Wash with mild soap and water.

If in eyes:

Open eyelids and flush with running water for at least 15 minutes.

If Swallowed:

Do not induce vomiting. Seek medical help immediately.

Most Important symptoms and effects, both acute and delayed

Not expected due to non- classification of the product.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Symptomatic treatment

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5. Fire-Fighting Measures

Extinguishing Media
None needed in wet state. Product is water based.
Dry material will burn. Use Water spray, foam, dry powder when needed.
Special hazards arising from the substance or mixture
Material is a mixture of organic compounds. Compounds of carbon may arise during burning.
Advice for fire-fighters
Wear self-contained breathing apparatus and turn out gear.
Further Information:
Dispose debris and contaminated clothing in accordance with regulations.

---

6. **Accidental release measures**

Further accidental release measures:
Slip hazard when spilled.
Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Avoid contact with skin and eyes.
Environmental Precautions
Do not release spilled material into natural waters.
Methods and material for containment and cleaning up
Remove material using absorbents. Scrape off excess and place in closed DOT approved containers for disposal.

7. **Handling and Storage**
Precautions for Safe Handling
Do not puncture. Keep out of the reach of children.
Conditions for safe storage, including any incompatibilities
Keep from freezing. Avoid extreme temperatures.

---

8. **Exposure Control/ Personal Protection**

Advice on system design: Maintain proper ventilation.

Personal protective equipment:

Respiratory protection: NIOSH respirator if needed. Use local exhaust ventilation. Do not use closed air-circulating system.

Skin protection: chemical resistant gloves, apron, coveralls, and boots to prevent unnecessary contact.

Eye protection: safety glasses, goggles, or face shield

General safety and hygiene safety measures:

Wash hands and face after use. Launder contaminated clothing before re-use. Always use protective equipment to avoid direct contact.

---

9. Physical and Chemical Properties

Form: medium viscosity liquid
Odor: mild
Odor threshold: no data
Color: off white to cream
pH value: 9.2 – 9.6
Melting point: not applicable
Boiling point: similar to water
Flash point: not applicable
Flammability: none flammable
Lower Explosion Limit: low
Upper Explosion Limit: low
Vapor Pressure: low
Density: 8.65 – 9.15 lbs. per gallon
Relative density: 1.04 – 1.10 grams / cm3
Vapor density: low
Partition Coefficient n-octanol /water (log Pow): no data
Self- ignition temperature: not applicable
Viscosity, dynamic: 62,500 –75,000 cps
Solubility in water: limited
Miscibility in water: miscible
Evaporation rate: same as water
Other information:

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10. Stability and Reactivity

Reactivity: Stable
Chemical stability: Stable
Possibility of hazardous reactions: None, product is stable.
Conditions to avoid: Extreme temperatures.
Incompatible materials: None known
Hazardous decomposition products: None known.

---

11. Toxicological Information

No data available

Primary routes of exposure: respiratory, eyes, skin. Ingestion is not likely but might cause gastric disturbances.

Acute Toxicity / Effects

Acute toxicity: May cause irritation upon contact.

Chronic Toxicity Effects

Repeated dose toxicity: no data available
Genetic toxicity: no data available
Carcinogenicity: not carcinogenic
Reproductive toxicity: no data available
Teratogenicity: no data available
Experiences in humans

Other Information

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12. Ecological Information
    No data available

---

13. **Disposal Considerations**
    Abide by all State, federal and local regulations

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14. **Transport Information**
    Proper Shipping name: Not applicable
    Proper Hazard Class: Not hazardous
    Hazard Code: None hazardous
    Bill of Lading Description: **Adhesives, NOI**

---

15. **Regulatory Information:**

Federal Regulations

Registration status:

TSCA: Chemicals contained in the product are either listed or exempt in the U.S. EPA TSCA inventory list.

SARA Title III, Section 312 Hazard Class: None

EPA SARA Title III Section 312: None

State regulations:

CA Prop 65:

Warning: This product may contain a chemical (s) known to the state of California to cause cancer and birth defects or other reproductive harm.

NFPA Hazard Codes:

Health: 1 Fire: 0 Reactivity: 0 Special:

HMIS rating:

Health: 1 Flammability: 0 Physical hazard: 0

---

16. Other Information

SDS prepared by: W.F. Taylor LLC SDS group

SDS prepared on: Oct. 27, 2015

Shaw Industries believes the data set forth herein are accurate as of the date hereof. Shaw Industries makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.

1. Identification

Product name	:	Sikaflex®-1A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Respiratory sensitization, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350 May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.

P285 In case of inadequate ventilation wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
titanium dioxide	13463-67-7	>= 2 - < 5 %
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	>= 0 - < 1 %
Quartz (SiO2)	14808-60-7	>= 0 - < 1 %
aromatic polyisocyanate	53317-61-6	>= 0 - < 1 %
Carbon black	1333-86-4	>= 0 - < 1 %
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 0 - < 1 %

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact	:	Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Asthmatic appearance Allergic reactions See Section 11 for more detailed information on health effects and symptoms. sensitizing effects carcinogenic effects
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	100 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3

		OSHA P0	STEL	125 ppm 545 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	various
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	Note: not applicable
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	ca.1.4 g/cm3 at 68 °F (20 °C)
Water solubility	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	ca.> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	40 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

aromatic polyisocyanate :

Acute oral toxicity	:	LD50 Oral rat: > 5,000 mg/kg

Carbon black :

Acute oral toxicity	:	LD50 Oral rat: > 8,000 mg/kg

4,4'-methylenediphenyl diisocyanate :

Acute inhalation toxicity	:	Acute toxicity estimate : 1.5 mg/l Test atmosphere: dust/mist Method: Expert judgment

Skin corrosion/irritation

Product

no data available

Serious eye damage/eye irritation

Product

no data available

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer.

IARC	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	ethylbenzene	100-41-4
	Carbon black	1333-86-4
	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

Carbon black	1333-86-4	Toxicity to fish: LC50 Species: Brachydanio rerio (zebrafish) Dose: > 1,000 mg/l Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	2.60 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

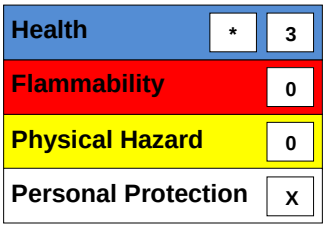
xylene	1330-20-7	2.60 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification



Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the

National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 07/29/2014

Material number: 476501

PRODUCT NAME: SODIUM NIT.SOLUTION **HMIS CODES: H F R P**
PRODUCT CODE: ZT171-01 **2*3 0**

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: TRINKOTE INDUSTRIAL FINISHES
ADDRESS : 1800 PARK PLACE AVE.
FORT WORTH, TX 76110

EMERGENCY PHONE : 1-800-424-9300 **DATE PRINTED : 9/15/2011**
INFORMATION PHONE : 817/926-5683 **NAME OF PREPARER : TRINKOTE INDUSTRIAL**

SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE mm Hg @ TEMP		WEIGHT PERCENT
* Sodium Nitrite	7632-00-0	NA	NA	5% - 10%
ACGIH TLV-TWA = 10 mg/m3				
ACGIH STEL = N.E.				
ACGIH CEILING = N.E.				
OSHA PEL = 15 mg/m3				
OSHA CEILING = N.E.				

*INDICATES TOXIC CHEMICAL(S) "SUBJECT" TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III AND OF 40 CFR 372.
ALL COMPONENTS OF THIS PRODUCT ARE PRESENT ON THE UNITED STATES TOXIC SUBSTANCES CONTROL ACT(TSCA) CHEMICAL SUBSTANCES INVENTORY.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: n/a **SPECIFIC GRAVITY (H2O=1): 1.05**
VAPOR DENSITY: HEAVIER THAN AIR **EVAPORATION RATE: Slower than ether.**
COATING V.O.C.: 0.0 lb/gl **MATERIAL V.O.C.: 0.0 lb/gl**
SOLUBILITY IN WATER: MATERIAL IS NOT WATER SOLUBLE AND/OR DISPERSABLE IN WATER.
APPEARANCE AND ODOR: N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: n/a **METHOD USED: n/a**
FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: n/a **UPPER: n/a**

EXTINGUISHING MEDIA: Foam, CO2, dry chemical.

SPECIAL FIREFIGHTING PROCEDURES
NONE KNOWN. HOWEVER, FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION IF MATERIAL IS INVOLVED IN A GENERAL FIRE.
FULL PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO-IGNITION OR EXPLOSION FROM HEATING.

UNUSUAL FIRE AND EXPLOSION HAZARDS
HANDLE AS IGNITABLE LIQUID. KEEP CONTAINERS TIGHTLY CLOSED AND ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS OR FLAME. VAPORS FORM AND EXPLOSIVE MIXTURE IN AIR BETWEEN THE UPPER AND LOWER EXPLOSIVE LIMITS. NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

SECTION V - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID
Poor ventilation.

INCOMPATIBILITY (MATERIALS TO AVOID)
ALKALINE MATERIALS, STRONG ACIDS AND OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
THERMAL DECOMPOSITION OR COMBUSTION CAN PRODUCE FUMES OF CARBON DIOXIDE AND CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR UNDER NORMAL CONDITIONS.

SECTION VI - HEALTH HAZARD DATA

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
VAPOR OR MIST CAN CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE,THROAT,AND LUNGS IN POORLY VENTILATED ARES. SOLVENT VAPOR OR MIST CAN CAUSE DIZZINESS,BREATHING DIFFICULTY, HEADACHES, IRRITATION TO NOSE AND THROAT, LOSS OF COORDINATION. CONTINUED OVER-EXPOSURE CAN LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE
SKIN CONTACT:IRRITATING TO THE SKIN ON REPEATED OR PROLONGED CONTACT. EYE CONTACT: DIRECT CONTACT MAY CAUSE EYE IRRITATION.
N CONTACT: CAN CAUSE IRRITAITON. CAN CAUSE DEFATTING OF SKIN WHICH CAN LEAD TO DERMATITIS. EYE CONTACT: LIQUID OR VAPOR CAN CAUSE IRRITATION, TEARING DISCOMFORT, REDNESS AND BLURRED VISION.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
LIQUID CAN BE ABSORBED THROUGH SKIN CAUSING IRRITATION, DEFATTING AND DERMATITIS.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE
CAN CAUSE GASTROINTESTINAL IRRITATION.
CAN CAUSE MOUTH,THROAT,ESOPHAGUS AND STOMACH IRRITATION,NAUSEA,VOMITING, AND DIARRHEA.

HEALTH HAZARDS (ACUTE AND CHRONIC)
ACUTE EFFECTS ARE LISTED ABOVE.
REPORTS HAVE ASSOCIATED REPEATED OR PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING CONTENTS MAY BE HARMFUL OR FATAL.

CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: No OSHA REGULATED: No

N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
N/A

EMERGENCY AND FIRST AID PROCEDURES
Inhalation - Move person to fresh air. Eye contact - Flush immediately with a large amount of water for at least 20 minutes and get medical attention. Skin contact - Wash thoroughly with soap and water while removing contaminated clothing and shoes. Ingestion - Do not induce vomiting! Contact physician or your local poison control center immediately if ingestion occurs.

========== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE ==========

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

DIKE SPILL AREA AND ADD ABSORBENT EARTH, SAND OR SAWDUST TO SPILLED LIQUID. KEEP OUT OF SEWERS.
ELIMINATE ALL SOURCES OF IGNITION (FLAMES, HOT SURFACES, AND ELECTRICAL, STATIC, OR FRICTIONAL SPARKS). AVOID BREATHING VAPORS. VENTILATE AREA. CONTAIN AND REMOVE WITH INERT ABSORBENT AND NON-SPARKING TOOLS. KEEP OUT OF SEWERS.

WASTE DISPOSAL METHOD

COLLECT ABSORBENT/SPILLED LIQUID INTO METAL CONTAINERS. DISPOSE OF IN ACCORDANCE WITH LOCAL,STATE,AND FEDERAL REGULATIONS. DON NOT INCINERATE CLOSED CONTAINERS. INCINERATE IN APPROVED FACILITY. OBEY RELEVANT LAWS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP AWAY FROM EXCESSIVE HEAT, SPARKS OR OPEN FLAMES. KEEP CONTAINERS CLOSED WHEN NOT IN USE. STORE IN COOL,WELL VENTILATED APPROVED AREAS. AVOID FREE FALL AND GROUND CONTAINER WHEN POURING. USE NON-SPARKING UTENSILS WHEN HANDLING THIS MATERIAL. KEEP CONTAINERS CLOSED AND UPRIGHT WHEN NOT IN USE. TO MINIMIZE THE POSSIBLITY OF SPONTANEOUS COMBUSTION, CONTROL THE ACCUMULATION OF ANY OVERSPRAY, SOAK RAGS IN WATER IN A CLOSED METAL CONTAINER THAT WERE USED TO WIPE UP OVERSPRAY. AIR DRY FILTERS OUTSIDE AND KEEP FAR AWAY FROM ANY COMBUSTIBLE MATERIAL. DISPOSE OF ALL CONTAMINATED MATERIALS AND WASTE PROPERLY. CONSULT OSHA 29 CFR 1910.107(b)(5) AND NFPA 33 FOR THE PROPER PROCEDURES.
KEEP FROM FREEZING! KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER HANDLING.

OTHER PRECAUTIONS

NOT TAKE INTERNALLY. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED TO COMPLY WITH OSHA 1910.106. EMPTIED CONTAINERS MAY RETAIN HAZARDOUS RESIDUE AND EXPLOSIVE VAPORS. KEEP AWAY FROM HEAT, SPARKS AND FLAMES. DO NOT CUT, PUNCTURE OR WELD ON OR NEAR EMPTIED CONTAINERS. WASH HANDS AFTER USING AND BEFORE SMOKING OR EATING. FOLLOW ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET UNTIL CONTAINER IS THOROUGHLY CLEANED OR DESTROYED. KEEP OUT OF REACH OF CHILDREN.

========== SECTION VIII - CONTROL MEASURES ==========

RESPIRATORY PROTECTION

DO NOT "INTENTIALLY" BREATHE VAPORS OR SPRAY MIST. IF YOUR COMPANIES SPRAYING CONDITIONS ARE HAZARDOUS, WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING THE USE OF THIS PRODUCT UNTIL VAPOR AND MISTS LEVELS ARE BELOW APPLICABLE EXPOSURE LIMITS. OBSERVE OSHA STANDARD 29CFR1910.1343. WE DO NOT KNOW THE CONDITIONS IN WHICH YOU WILL BE UTILIZING THIS PRODUCT, THEREFORE, EACH COMPANY MUST MAKE INDIVIDUAL JUDGEMENT CALLS BASED UPON THEIR PLANT. MANY COMPANIES MAY BE ABLE TO UTILIZE THIS PRODUCT WITHOUT THE USE OF RESPIRATORS IF CONDITIONS PERMIT.

VENTILATION

N/A

PROTECTIVE GLOVES

POLYETHYLENE HANDLING GLOVES FOR SKIN PROTECTION. MUST BE IMPERVIOUS TO WATER AND SOAP.
USE CHEMICAL/SOLVENT IMPERMEABLE GLOVES TO AVOID CONTACT WITH PRODUCT.

EYE PROTECTION

chemical safety glassses or goggles (ANSI 287.1-1968).
oid contact with eyes. Use safety eyewear with splash guards or side shields, chemical goggles, or face shields.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

PROVIDE EYEWASH STATION AND EMERGENCY SHOWER. USE OF PROTECTIVE CREAMS, HEAD CAPS, ETC. IS RECOMMENDED. AVOID CONTACT

ITH CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING, INCLUDING SHOES, BEFORE REUSE.

WORK/HYGIENIC PRACTICES
WASH HANDS BEFORE EATING OR USING WASHROOM, SMOKE IN SMOKING AREAS ONLY.

SECTION IX - DISCLAIMER

To the best of our knowledge, the information contained herein is based on data considered accurate. No warranty expressed or implied is made. Trinkote Industrial Finishes assumes no responsibility for damage to person, property or business caused by the material. It is the responsibility of the purchaser or user of the material to ensure that it is properly used. This MSDS is intended for OSHA regulating purposes only. It is not intended for the reporting of emissions, storm water, waste, or pollution reporting. Any and all such information is made available by specific requests through the Compliance or Laboratory Offices of Trinkote Industrial Finishes.

NALCO CHEMICAL COMPANY -- SOLUTION S0234 TDS-1

MSDS Safety Information

FSC: 6810
MSDS Date: 03/16/1995
MSDS Num: CBBSD
LIIN: 00N030312
Product ID: SOLUTION S0234 TDS-1
MFN: 02
Responsible Party
Cage: 89524
Name: NALCO CHEMICAL COMPANY
Address: ONE NALCO CENTER
City: NAPERVILLE IL 60563-1198
Info Phone Number: 708-305-1000
Emergency Phone Number: 800-462-5378
Preparer's Name: RICKY A STACKHOUSE
Published: Y

Contractor Summary

Cage: 89524
Name: NALCO CHEMICAL COMPANY
Address: ONE NALCO CENTER
City: NAPERVILLE IL 60563-1198
Phone: (312) 981-9500

Ingredients

Cas: 64-17-5
RTECS #: KQ6300000
Name: ETHYL ALCOHOL (ETHANOL); (ETHANOL-DENATURED)
% Wt: 20-40
OSHA PEL: 1000 PPM
ACGIH TLV: 1000 PPM; 9495

Cas: 67-56-1
RTECS #: PC1400000
Name: METHYL ALCOHOL (METHANOL) (SARA 313) (CERCLA)
% Wt: 1-5
OSHA PEL: S, 200 PPM
ACGIH TLV: S,200PPM/250STEL; 95
EPA Rpt Qty: 5000 LBS
DOT Rpt Qty: 5000 LBS

Name: SPILL PROC:PLANT WASTES. KEEP THE SPILL AWAY FROM HEAT, SPARKS, FLAMES AND WELDING OPERATIONS.

Name: OTHER PREC:ENSURE SAFE WORKPLACE OPERATIONS. PLEASE CONSULT YOUR LOCAL SALES REPRESENTATIVE FOR ANY FURTHER INFO.

Name: EXTING MEDIA:USE H*2O TO COOL CNTNRS EXPOSED TO FIRE. FOR LRG FIRES, USE H*2O SPRAY/FOG, THORO DRENCHING BURNING MATLS.

Health Hazards Data

LD50 LC50 Mixture: LD50: (ORAL, RAT) 7,060 MG/KG
Route Of Entry Inds - Inhalation: YES
Skin: YES
Ingestion: NO
Carcinogenicity Inds - NTP: NO
IARC: NO
OSHA: NO
Effects of Exposure: EYES:MAY CAUSE IRRIT W/PRLNG CNTCT. SKIN:MAY CAUSE IRRIT W/PRLNG CNTCT. INGEST:CAN CAUSE BLINDNESS. CAN CAUSE CNS DEPRESSION, NAUSEA, DIZZ, VOMIT/UNCONSCIOUSNESS DEPENDING ON LENGTH OF EXPOS & ON FIRST AID ACTION GIVEN. CAN BE HARMFUL. INHA L:PRLNG INHAL OF MIST/VAP MAY CAUSE NAUSEA, DIZZ, LT-HEAD, (EFTS OF OVEREXP)
Explanation Of Carcinogenicity: NOT RELEVANT.
Signs And Symptions Of Overexposure: HLTH HAZ:VOMIT/UNCONSCIOUSNESS DEPENDING ON THE LENGTH OF EXPOS & FIRST AID ACTION GIVEN. SYMPS OF EXPOS:REVIEW OF AVAIL DATA DOES NOT IDENTIFY ANY SYMPS OF EXPOS. ACUTE TOX STUDIES HAVE NOT BEEN CONDUCTED ON THIS PROD, BUT TOX STUDIES OF I NGRED(S) IN SECTION 2 HAVE BEEN REVIEWED.
Medical Cond Aggravated By Exposure: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY WORSENING OF EXISTING CONDITIONS.
First Aid: EYES:IMMED FLUSH FOR AT LEAST 15 MIN WHILE HOLDING EYELIDS OPEN. CALL A MD AT ONCE. SKIN:IMMED FLUSH W/H*2O FOR AT LEAST 15 MIN. FOR LARGE SPLASH, FLOOD BODY UNDER A SHOWER. CALL A MD AT ONCE. INGEST:INDUCE VOMIT. GIVE H*2O. CALL A MD AT ON CE. INHAL:REMOVE TO FRESH AIR. TREAT SYMPS. CALL MD AT ONCE. NOTE TO MD:BASED ON THE INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT (SUPDAT)

Handling and Disposal

Spill Release Procedures: IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE

FOLLOWING 24-HR TELEPHONE NUMBER (800) I-M-ALERT OR (800) 462-5378. SPILL CTL & RECOVERY:SMALL LIQ SPILLS:CNTN W/ABSORB MATL, SUCH AS CLAY, SOIL/ANY COMMERICALLY AVAIL ABSORB. COMBINE W/IGNITABL E

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Methods: IF THIS PROD BECOMES A WASTE, IT MEETS THE CRITERIA OF A HAZ WASTE AS DEFINED UNDER RESOURCE CONSERVATION & RECOVERY ACT (RCRA) 40 CFR 261. HAZ WASTE D001. COMBINE W/OTHER PLANT IGNITABLE WASTE FOR DISP. CAN BE INCIN I/A/W/LOCAL, STATE & FE D REGS.

Handling And Storage Precautions: DO NOT STORE NEAR IGNITION SOURCES. EMPTY PRODUCT CONTAINERS SHOULD BE PUNCTURED, IF PLASTIC, AND PLACED IN THE GARBAGE COLLECTION CONTAINERS.

Other Precautions: INDIVIDUALS HNDLG THIS PROD SHOULD BE INFORMED OF THEREC SAFETY PRECS & SHOULD HAVE ACCESS TO THIS INFO. FOR ANY OTHER USES,EXPOS SHOULD BE EVALUATED SO THAT APPROP HNDLG PRACTICES & TRAININGPROGRAMS CAN BE ESTABLISHED TO

Fire and Explosion Hazard Information

Flash Point Method: TCC

Flash Point Text: 76.0F,24.4C

Extinguishing Media: BASED ON THE NFPA GUIDE, USE DRY CHEM, FOAM, CARBON DIOXIDE/OTHER EXTING AGENT SUITABLE FOR CLASS B FIRES.

Fire Fighting Procedures: USE NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP (FP N). USE H*2O TO COOL CNTNRS EXPOSED TO FIRE. FOR LRG FIRES, USE WATER SPRAY/FOG, THORO DRENCHING BURNING MATL.

Unusual Fire/Explosion Hazard: TREAT LIKE AN ALCOHOL FIRE, FLAMMABLE LIQUID.

Control Measures

Respiratory Protection: RESPIRATORY PROTECTION IS NOT NORMALLY NEEDED. NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).

Ventilation: GENERAL VENTILATION IS REC. ADDITIONALLY, LOCAL EXHAUST VENT IS REC WHERE VAPORS, MISTS OR AEROSOLS MAY BE RELEASED.

Protective Gloves: IMPERVIOUS GLOVES (FP N).

Eye Protection: ANSI APPROVED CHEM WORKERS GOGGS (FP N).

Other Protective Equipment: EYE WASH FOUNTAIN & DELUGE SHOWER WHICH MEET ANSI DESIGN CRITERIA (FP N).

Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.

Supplemental Safety and Health: PH:SLIGHTLY ACIDIC. MATLS TO AVOID:PERMANGANATES) WHICH CAN GENERATE HEAT, FIRES, EXPLOSIONS & THE RELEASE OF TOXIC FUMES. FIRST AID PROC:SHOULD BE USED TO CONTROL SYMPTOMS & CLINICAL CONDITION. CAUTION:IF UNCONSCIOUS, HAVING TROUBLE BRTHG/ IN-CONVULSIONS, DO NOT INDUCE VOMITING OR GIVE WATER.

Physical/Chemical Properties

PH: SUPDAT

Solubility in Water: SOLUBLE

Appearance and Odor: COLORLESS LIQUID; ALCOHOL ODOR.

Reactivity Data

Stability Indicator: YES

Stability Condition To Avoid: NONE SPECIFIED BY MANUFACTURER.

Materials To Avoid: AVOID CONTACT WITH STRONG OXIDIZERS (EG. CHLORINE, PEROXIDES, CHROMATES, NITRIC ACID, PERCHLORATES, CONC OXYGEN,(SUPDAT)

Hazardous Decomposition Products: IN THE EVENT OF COMBUSTION CO, CO*2 MAY BE FORMED. DO NOT BREATHE SMOKE OR FUMES. WEAR SUITABLE PROTECTIVE EQUIPMENT.

Hazardous Polymerization Indicator: NO

Conditions To Avoid Polymerization: NOT RELEVANT.

Toxicological Information

Ecological Information

MSDS Transport Information

Regulatory Information

Other Information

HAZCOM Label

Product ID: SOLUTION S0234 TDS-1

Cage: 89524

Company Name: NALCO CHEMICAL COMPANY

Street: ONE NALCO CENTER

City: NAPERVILLE IL

Zipcode: 60563-1198

Health Emergency Phone: 800-462-5378

Label Required IND: Y

Date Of Label Review: 04/01/1996

Status Code: C
Label Date: 04/01/1996
Origination Code: G
Eye Protection IND: YES
Skin Protection IND: YES
Signal Word: DANGER
Respiratory Protection IND: YES
Health Hazard: Moderate
Contact Hazard: Slight
Fire Hazard: Severe
Reactivity Hazard: None
Hazard And Precautions: FLAMMABLE. KEEP AWAY FROM HEAT, SPARKS AND FLAME. ACUTE: SKIN/EYE: MAY IRRITATE ON PROLONGED CONTACT. INGESTION: CAN CAUSE BLINDNESS. CAN CAUSE CNS DEPRESSION. CAN BE HARMFUL. INHALATION: MIST OR VAPOR MAY CAUSE NAUSEA, DIZZINESS, LIGHT HEA DEDNESS, VOMITING OR UNCONSCIOUSNESS. CHRONIC: NONE SPECIFIED BY MANUFACTURER.

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever expressly or implied warrants, states, or intends said information to have any application, use or viability by or to any person or persons outside the Department of Defense nor any person or persons contracting with any instrumentality of the United States of America and disclaims all liability for such use. Any person utilizing this instruction who is not a military or civilian employee of the United States of America should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation regardless of similarity to a corresponding Department of Defense or other government situation.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: SPCUSE 1-GL THINNER THINNER

Revision Date: 4/29/2016

Product Identifier: 140402

Supercedes Date: 8/14/2014

Product Use/Class: Paint Thinner/Thinners

Supplier:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer:
Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Warning

Possible Hazards
60% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Flammable Liquid, category 3	H226	Flammable liquid and vapor.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Skin Irritation, category 2	H315	Causes skin irritation.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. NO SMOKING.
P260	Do not breathe dust, fumes, gases, mists, vapors, or spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.

P362	Take off contaminated clothing.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Aromatic Petroleum Distillates	64742-94-5	50-75	GHS07-GHS08	H304-312
Xylene (mixed isomers)	1330-20-7	25-50	GHS02-GHS07	H226-315-319-332
Ethylbenzene	100-41-4	2.5-10	GHS02-GHS07-GHS08	H225-304-332-373
Naphthalene	91-20-3	1.0-2.5	GHS06-GHS08	H302-312-330-351
Toluene	108-88-3	0.1-1.0	GHS02-GHS07-GHS08	H225-304-315-332-336-373

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat due to buildup of steam. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Eliminate all ignition sources; use explosion-proof equipment. Place material in a container and dispose of according to local, provincial, state and federal regulations. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class II combustible liquids. Keep away from heat, sparks, flame and sources of ignition. Keep container closed when not in use. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Aromatic Petroleum Distillates	64742-94-5	60.0	N.E.	N.E.	N.E.	N.E.
Xylene (mixed isomers)	1330-20-7	35.0	100 ppm	150 ppm	100 ppm	N.E.
Ethylbenzene	100-41-4	10.0	20 ppm	N.E.	100 ppm	N.E.
Naphthalene	91-20-3	5.0	10 ppm	N.E.	10 ppm	N.E.
Toluene	108-88-3	1.0	20 ppm	N.E.	200 ppm	300 ppm

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or in any other circumstances where air purifying respirators may not provide adequate protection.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.886	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	135 - 205	**Explosive Limits, vol%:**	0.8 - 6.8
Flammability:	Supports Combustion	**Flash Point, °C:**	27
Evaporation Rate:	Slower than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Prolonged or repeated skin contact may cause irritation. May be absorbed through the skin in harmful amounts. Causes skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. May cause headaches and dizziness. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B).

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-94-5	Aromatic Petroleum Distillates	>5000 mg/kg Rat	>1795 mg/kg Rabbit	36 mg/L Rat
1330-20-7	Xylene (mixed isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.2 mg/L Rat
91-20-3	Naphthalene	1110 mg/kg Rat	1120 mg/kg Rabbit	>.3 mg/L Rat
108-88-3	Toluene	2600 mg/kg Rat	12000 mg/kg Rabbit	12.5 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1263	1263	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Paint	Paint	Paint Products in Limited Quantities
Hazard Class:	N.A.	3	3	N.A.
Packing Group:	N.A.	III	III	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Xylene (mixed isomers)	1330-20-7
Ethylbenzene	100-41-4
Naphthalene	91-20-3
Toluene	108-88-3

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 3 **Physical Hazard:** 0 **Personal Protection:** X

NFPA RATINGS

Health: 2 **Flammability:** 3 **Instability** 0

VOLATILE ORGANIC COMPOUNDS, g/L: 884

SDS REVISION DATE: 4/29/2016

REASON FOR REVISION: Substance and/or Product Properties Changed in Section(s):
01 - Identification
02 - Hazard Identification
03 - Composition/Information on Ingredients
05 - Fire-fighting Measures
09 - Physical & Chemical Properties
11 - Toxicological Information
15 - Regulatory Information
16 - Other Information
Substance Regulatory CAS Number Changed
Substance Hazard Threshold % Changed
Substance Chemical Name Changed
Product Composition Changed
Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

Identity: Water Additive - Part #32-001100 or as included with 32-000130 or 32-000230

Section I

Manufacturer: Sperian Eye & Face Protection, Inc (a Honeywell Company)	**Emergency Telephone:** 1-800-430-5490
Address: 825 East Highway 151	**Information Telephone:** 1-800-543-4842
Platteville, WI 53818	**Date Prepared:** 10/18/12

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other limits recommended	% (optional)
Para-Chloroaniline	D.N.A.	500P.P.M.	N/A	N/A
Chlorhexidine 55-56-1	D.N.A.	N/A	N/A	N/A

Section III - Physical/Chemical Characteristics

Boiling Point: 206.6° F (97° C)	**Specific Gravity (H2 O)=1:** 1.06
Vapor Pressure (mm Hg.): N/A	**Melting Point:** D.N.A. LIQUID
Vapor Density (Air = 1): N/A	**Evaporation Rate (Butyl Acetate = 1):** SAME AS WATER

Solubility in Water: SOLUBLE

Appearance and Odor: ALMOST COLORLESS OR PALE STRAW COLOR.

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used): 147°F EXTINGUISHED FLAME	**FlammableLimits:**NON-FLAMMABLE	**LEL:** N/A	**UEL:** N/A

Extinguishing Media: FOAM, DRY CHEMICAL, CO2, WATER FOG.

Special Fire Fighting Procedures: MUST WEAR MSHA/NIOSH APPROVED, SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

Unusual Fire and Explosion Hazards: THERMAL DECOMPOSITION MAY PRODUCE TOXIC FUMES OF AMMONIA, HYDROGEN CHLORIDE AND OXIDES OF CARBON AND NITROGEN.

Section V - Reactivity Data

Stability	**Unstable:** NO **Stable:** YES	**Conditions to Avoid:** STORAGE OVER 98°F (37°C)

Incompatibility (Materials to Avoid): N/A

Hazardous Decomposition or Byproducts: PARA-CHLOROANILINE (P.C.A)

Hazardous Polymerization	**May Occur:** NO **Will NotOccur:** YES	**Conditions to Avoid:** STORAGE IN EXCESS HEAT (104° F) OVER A LONG PERIOD OF TIME.

Section VI - Health Hazard Data

Route(s) of Entry: **Inhalation?** NO **Skin?** NOT ABSORBED **Ingestion?** POSSIBLE

Health Hazards (Acute and Chronic): ORAL LD50: 1.8 g/Kg/(RAT). HAZARDOUS TO MIDDLE EARS WITH PERFORATED EARDRUM.

Carcinogenicity: **NTP?** NONE **TSCA?** YES **IARC Monographs?** NONE **OSHA Regulated?** NO

Signs and Symptoms of Exposure: SKIN AND EYE IRRITANT.

Medical Conditions Generally Aggravated by Exposure: DERMATITIS.

Emergency First Aid Procedures: FLUSH WITH WATER FROM EYES AND EARS.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: FLUSH WITH WATER. IF IRRITATION OCCURS AND PERSISTS, GET MEDICAL ATTENTION.

Waste Disposal Method: FLUSH WITH WATER.

Precautions to Be Taken in Handling and Storing: DO NOT SPILL ON SKIN OR INTO EYES/EARS.

Other Precautions: HANDLE WITH CARE. IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

Section VIII - Control Measures

Respiratory Protection: NONE REQUIRED.

Ventilation	**Local Exhaust:** OK	**Special:** N/A
	Mechanical: NO	**Other:** N/A

Protective Gloves: YES **Eye Protection:** CHEMICAL SAFETY GOGGLES.

Other Protective Clothing: N/A

Work Hygienic Practices: HANDLE WITH CARE.

MATERIAL SAFETY DATA SHEET

Identity: Sperian® Water Additive - Part #32-001100 or as included with 32-000130 or 32-000230

Section I

Manufacturer: Sperian Eye & Face Protection, Inc	**Emergency Telephone:** 1-800-336-3255
Address: 825 East Business Highway 151 Platteville, WI 53818	**Information Telephone:** 1-800-543-4842 **Date Prepared:** 06-16-09

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other limits recommended	% (optional)
Para-Chloroaniline	D.N.A.	500 P.P.M.	N/A	N/A
Chlorhexidine 56-55-1	D.N.A.	N/A	N/A	N/A

Section III - Physical/Chemical Characteristics

Boiling Point: 206.6° F (97° C)	**Specific Gravity (H2 O)=1:** 1.06
Vapor Pressure (mm Hg.): N/A	**Melting Point:** D.N.A. LIQUID
Vapor Density (Air = 1): N/A	**Evaporation Rate (Butyl Acetate = 1):** SAME AS WATER

Solubility in Water: SOLUBLE

Appearance and Odor: ALMOST COLORLESS OR PALE STRAW COLOR.

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used): 147°F EXTINGUISHED FLAME	**FlammableLimits:**NON-FLAMMABLE	**LEL:** N/A	**UEL:** N/A

Extinguishing Media: FOAM, DRY CHEMICAL, CO2, WATER FOG.

Special Fire Fighting Procedures: MUST WEAR MSHA/NIOSH APPROVED, SELF-CONATINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.

Unusual Fire and Explosion Hazards: THERMAL DECOMPOSITION MAY PRODUCE TOXIC FUMES OF AMMONIA, HYDROGEN CHLORIDE AND OXIDES OF CARBON AND NITROGEN.

Section V - Reactivity Data

Stability	**Unstable:** NO **Stable:** YES	**Conditions to Avoid:** STORAGE OVER 98°F (37°C)

Incompatibility (Materials to Avoid): N/A

Hazardous Decomposition or Byproducts: PARA-CHLOROANILINE (P.C.A)

Hazardous Polymerization	**May Occur:** NO **Will NotOccur:** YES	**Conditions to Avoid:** STORAGE IN EXCESS HEAT (104° F) OVER A LONG PERIOD OF TIME.

Section VI - Health Hazard Data

Route(s) of Entry: **Inhalation?** NO **Skin?** NOT ABSORBED **Ingestion?** POSSIBLE

Health Hazards (Acute and Chronic): ORAL LD50: 1.8 g/Kg/(RAT). HAZARDOUS TO MIDDLE EARS WITH PERFORATED EARDRUM.

Carcinogenicity: **NTP?** NONE **TSCA?** YES **IARC Monographs?** NONE **OSHA Regulated?** NO

Signs and Symptoms of Exposure: SKIN AND EYE IRRITANT.

Medical Conditions Generally Aggravated by Exposure: DERMATITIS.

Emergency First Aid Procedures: FLUSH WITH WATER FROM EYES AND EARS.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: FLUSH WITH WATER. IF IRRITATION OCCURS AND PERSISTS, GET MEDICAL ATTENTION.

Waste Disposal Method: FLUSH WITH WATER.

Precautions to Be Taken in Handling and Storing: DO NOT SPILL ON SKIN OR INTO EYES/EARS.

Other Precautions: HANDLE WITH CARE. IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

Section VIII - Control Measures

Respiratory Protection: NONE REQUIRED.

Ventilation	**Local Exhaust:** OK	**Special:** N/A
	Mechanical: NO	**Other:** N/A

Protective Gloves: YES	**Eye Protection:** CHEMICAL SAFETY GOGGLES.

Other Protective Clothing: N/A

Work Hygienic Practices: HANDLE WITH CARE.

Part #32-005608 Rev B

There was a PDF conversion failure for -

Product Name: Stainless Steel Products, All Grades
CAS Number:
Manufacturer: North American Stainless
SDS Date: 9/1/2016

To complete your binder, please link a different SDS for this product or print the SDS manually from

http://www.msdsonline.com/Legacy/Partners/Show-Document/Default.aspx?ShowId=o%2f3pH6iQUik%3d

and add to your binder. We are currently researching solutions to this issue. Thank you for your patience.

MATERIAL IDENTIFICATION AND USE	**Safety Data Sheet**	Manufacture: North American Stainless
Material Name: STAINLESS STEEL PRODUCTS, ALL GRADES Synonyms: Coil, Plate, Angle, Bar, Rebar and Wire.	NAS	Address: 6870 Highway 42 East Ghent, KY 41045 Tel: 502-347-6000 Fax: 502-347-6001 Date: June 2015

1. IDENTIFICATION

GHS PRODUCT IDENTIFIER: STAINLESS STEEL

OTHER MEANS OF IDENTIFICATION: Coil, Plate, Angle, Bar, Rebar and Wire Coil.

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS OF USE:
Solid stainless steel products, varies forms and uses, manufacture of articles.

MANUFACTURE'S DETAILS: North American Stainless, 6870 Highway 42 East, Ghent, KY 41045

PHONE & EMERGENCY NUMBER: PHONE: 502-347-6000 EMERGENCY: 502-347-6111

2. HAZARD IDENTIFICATION

Classification: Stainless steel is considered an article and not hazardous in its solid form. However, certain process such as cutting, milling, grinding, melting and welding could result in some hazardous materials being emitted. The following classification information is for the hazardous elements which may be emitted during these processes.

SIGNAL WORD, HAZARD STATEMENTS & SYMBOLS: DANGER

SYMBOLS	HAZARD	GHS CLASSIFICATION	HAZARD STATEMENTS
	Carcinogenicity	Category – 1B	May cause cancer
	Respiratory Sensitizer	Category – 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	STOT (repeated exposure)	Category – 1	Causes damage to organs through prolonged or repeated exposure.
	Toxic to Reproduction	Category – 1B	Suspected of damaging the unborn child
	Acute Oral Toxicity	Category – 4	Harmful if swallowed
	Skin Sensitizer	Category – 1	May cause allergic skin reaction
	STOT (single exposure)	Category - 3	May cause respiratory irritation
N/A	Eye Irritation	Category – 2B	Causes eye irritations.

Precautionary Statements:

PREVENTION	FIRST AID RESPONSE
Do not breathe dust/fume/gas/vapor/spray. Use in well- ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when handling this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Contaminated work clothing should not be allowed out of the workplace.	Eyes: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if eye irritation persists Skin: Wash affected area with mild soap and water. Seek medical attention if skin irritation persists. Inhalation: Remove to fresh air. Check for clear airway, breathing and presence of pulse. If necessary administer CPR. Consult a physician immediately. Ingestion: Dust may irritate mouth and gastrointestinal tract, If ingested, seek medical attention promptly.
STORAGE	**DISPOSAL**
Store away from acids and incompatible materials Store in accordance with federal/provincial/state or local regulations	Steel scrap should be recycled whenever possible Otherwise, dispose of in accordance with applicable federal/provincial/state or local regulations

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): Not applicable

3. COMPOSITION/INFORMATION ON INGREIDENTS

All values are expressed as weight percent and are approximate. The percent composition reflects the range that is possible within this group of products. These are not the technical specifications for particular product. All grades do not include all hazardous ingredients.

COMPONENT	CAS NUMBER	PERCENT
Iron	7439-89-6	45 - 90
Nickel	7440-02-2	0 - 40
Chromium	7440-47-3	10.5 – 30
Manganese	7439-96-5	0 - 15
Molybdenum	7429-98-7	0 - 5
Copper	7440-50-8	0 - 5
Silicon	7440-21-3	0 - 3
Aluminum	7429-90-5	0 - 1
Cobalt	7440-48-4	0 - 1
Titanium	7440-32-6	0 - 1
Vanadium	1314-62-1	Trace
Tungsten	7440-33-7	Trace
Tantalum	7440-25-7	Trace
Lead	7439-92-1	Trace

4. FIRST AID MEASURES

EYE CONTACT: Wash with copious amounts of water for 15 minutes to ensure that no articles remain in the eye. Seek medical advice if irritation persists.

SKIN CONTACT: If irritation develops, wash skin thoroughly with soap and water. Seek medical attention if necessary.

INHALATION: Remove from dusty area to fresh air. If discomfort persists, consult physician.

INGESTION: If significant amounts of dust are ingested consult a physician.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED:

Stainless steel as a solid and shipped is not likely to present an acute or chronic health effects. However, during processing (cutting, milling, grinding, melting or welding) emitted byproducts may cause irritations, difficulty in breathing, coughing or wheezing. May cause allergic skin reactions.

INDICTAION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NECESSARY:

Notes to physician: May cause sensitization by skin contact or inhalation. Treat symptomatically.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Non-flammable. Will not support combustion. Not applicable for solid product. Use extinguishers appropriate for surrounding materials. Do not use water on molten metal. A fire involving finely divided alloy should be treated as Class D Combustible metal fire.

SPECIFIC HAZARDS ARISING FROM MATERIAL: Not applicable for solid product.

HAZARDOUS COMBUSTION PRODUCTS: Not applicable for solid formed alloy. Toxic metal and metallic oxide fumes may be evolved from fires involving finely divided alloy.

SPECIAL FIRE FIGHTING INSTRUCTIONS: For solid formed alloy, as appropriate for surrounding fire. Firefighters should wear self-contained NIOSH-approved breathing apparatus and full protective clothing.

EXPLOSION DATA: Solid formed alloy does not constitute a fire or explosion hazard. However, finely divided suspended particulates may present a fire and explosion hazard in the presence of an ignition source.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Not applicable to stainless steel in solid state. Avoid dust formation. Ensure adequate ventilation. Clean –up personnel should be protected against inhalation and eye and skin contact.

ENVIRONMENTAL PRECAUTIONS: Not applicable to stainless steel in solid state.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

Not applicable to stainless steel in solid state. For spills involving fine dusts, remove by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid inhalation of dusts.

7. HANDLING AND STORAGE

PRECAUTIONS OF SAFE HANDLING: Not applicable to stainless steel in solid state. Operations with the potential for generating high concentrations of airborne particles should be evaluated and controlled as necessary. Practice good housekeeping. Avoid breathing metal fumes and/or dust.

CONDITIONS FOR SAFE STORAGE: No special storage conditions for stainless steel in solid state

INCOMPATIBLE PRODUCTS: Store away from acids and incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: There are no exposure limits for stainless steel. The exposure limit for iron-containing fumes has been established at 5 mg/m3 with ACGIH's TWA. The individual complex compounds with the fume may have lower exposure limits that then general fume.

COMPONENT	CAS NUMBER	OSHA PEL (mg/m3)	TLV ACGIH (mg/m3)
Iron	7439-89-6	10 mg/m3 Iron Oxide - Fume	5 mg/m3 Iron Oxide – Dust & Fume
Nickel	7440-02-2	1 mg/m^3, Metal, soluble & insoluble compounds	1.5 mg/ m^3 Metal 0.1 mg/ m^3 Soluble compounds 0.2 mg/ m^3, Insoluble compounds
Chromium	7440-47-3	1 mg/ m^3, Metal & insoluble salt 0.5 mg/m^3, Cr (III) 5 µg/m^3, Cr (VI) 2.5 µg/m^3 Action Level Cr (VI)	0.5 mg/m^3 Metal and Cr (III) 0.05 mg/m^3, Cr (VI) & water soluble compounds 0.01 mg/m^3, Cr (VI) Insoluble compounds
Manganese	7439-96-5	5 mg/m^3 (ceiling)	0.2 mg/m^3
Molybdenum	7429-98-7	5 mg/m^3 Soluble compounds as MO 15 mg/m^3 Total dust	5 mg/m^3 Soluble compounds as MO 10 mg/m^3 Insoluble compounds as MO
Copper	7440-50-8	0.1 mg/m^3 Fume 1.0 mg/m^3 Dust & Mist	0.2 mg/m^3 Fume 1.0 mg/m^3 Dust & Mist
Silicon	7440-21-3	15 mg/m^3 Total dust 5 mg/m^3 Respirable dust	10 mg/m^3 Total dust
Aluminum	7429-90-5	15 mg/m^3 Metal & Total dust 5 mg/m^3 Respirable dust	1 mg/m^3 Respirable dust 5 mg/m^3 Welding fume
Cobalt	7440-48-4	0.1 mg/m^3 Metal, Dust & Fume	0.02 mg/m^3 Metal, Dust & Fume
Vanadium	1314-62-1	0.5 mg/m^3 (ceiling) Vanadium Pentoxide dust 0.1 mg/m^3 (ceiling) Vanadium Pentoxide fume	0.05 mg/m^3 Vanadium Pentoxide
Tungsten	7440-33-7	15mg/m3 Total Dust 5mg/m3 Respirable Dust	1.0 mg/ m^3, 3 mg/m3 STEL Soluble 5.0 mg/ m^3, 10 mg/m3 STEL Insoluble
Tantalum	7440-25-7	5 mg/ m^3 Metal & Oxide Dust 10 mg/ m^3 STEL	5 mg/ m^3 Metal & Oxide Dust
Titanium	7440-32-6	15 mg/ m^3 Titanium Dioxide Total Dust	10 mg/ m^3 Titanium Dioxide Total Dust
Lead	7439-92-1	0.05 mg/ m^3	0.05 mg/ m^3

Note: OSHA PEL's and Threshold Limit Values (TLV) established by the Occupational Health and Safety Administration and the American Conference of Governmental Industrial Hygienists (ACGIH) are 8 hour Time Weighted Averages concentrations unless otherwise noted.

Appropriate Engineering Controls: Local and or general exhaust ventilation should be used to keep worker exposure below applicable exposure limits during welding, brazing, grinding, machining, and other process which may generate airborne contaminants.

Individual Protective Measures: Dependent upon process being performed on material each operation must be addressed for suitable equipment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION CONT.

Gloves: Suitable for protection against physical injury and skin contact during handling and processing.

Eyes: Safety glasses or goggles should be worn when there is probability of flying particles or eleveled levels of dust or fume.

Clothing: N/A

Respirator: If concentrations exceed established limits use NIOSH/MSHA approved particulate respirators (dust & fume or high efficiency dust and fume) when grinding or welding.

Footwear: N/A

Other: N/A

9. CHEMICAL AND PHYSICAL PROPERTIES

Physical State	Solid	Appearance	Solid Silver-grey metallic
Odor	Odorless	Odor Threshold	Not Applicable
pH	Not Applicable	Melting Point	2500 – 2800 °F
Boiling Point	Not Applicable	Flash Point	Not Applicable
Evaporation Rate	Not Applicable	Flammability (solid, gas)	Not flammable
Upper Flammable Limit%	Not Applicable	Lower Flammable Limit	Not Applicable
Vapor Pressure	Not Applicable	Vapor Density	Not Applicable
Relative Density	Not Applicable	Specific gravity	7.65 – 7.94
Solubility	Not Applicable	Partition Coefficient	No data
Auto-ignition Temp ©	Not Applicable	Decomposition Temperature	No data
Viscosity	Not Applicable		
Other Information	Not Applicable		

10. STABILITY AND REACTIVITY

REACTIVITY: Not determined for product in solid form.

CHEMICAL STABILITY: Stable under normal conditions of transport, storage and use for solid formed product.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

CONDITIONS TO AVOID: Contact with mineral acids will release flammable hydrogen gas. Dust formation.

INCOMPATIBLE MATERIALS: Oxidizers, Reacts with strong acids to form explosive hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS: During certain operations such as welding, burning, melting or hot rolling, metal fumes may be generated. Hexavalent chromium which is a suspect carcinogen may result from pickling stainless.

11. TOXICOLOGICAL INFORMATION

TOXICITY

COMPONENT	LD_{50} ORAL	LD_{50} DERMAL	LD_{50} INHALATION	OTHER
Iron	30,000 mg/kg Oral -Rat	-	-	-
Nickel	>9,000 mg/kg Oral -Rat	-	-	-
Chromium	No data available	-	-	-
Manganese	9,000 mg/kg Oral -Rat	-	-	-
Molybdenum	No data available	-	-	-
Copper	No data available	-	-	-
Silicon	3,160 mg/kg	-	-	-
Aluminum	No data available	-	-	-
Cobalt	6,171 mg/kg Oral -Rat	-	-	-

LIKELY ROUTES OF ENTRY: None for stainless steel in its natural state.

EYES: High concentration of dust may cause irritation to the eyes

SKIN: Prolonged skin contact with dust may cause skin irritation to sensitive individuals

INHALATION: Inhalation of metal particulate or elemental oxide fumes generated during welding, burning or grinding machining may pose acute or chronic health effects.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:

None for stainless steel in its natural solid shape

EFFECTS OF ACUTE EXPOSURE TO MATERIAL:

MANGANESE & COPPER: Inhalation overexposure to manganese or copper (or zinc coated products) may cause metal fume fever characterized by fever and chills (flue like symptoms) which appear 4-6 hours after exposure with no long term effects.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL:

CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category "confirmed carcinogenicity to humans." And metallic chromium under its group 3 category – "not classifiable as to their carcinogenicity to humans." Chromium metal is classified as a carcinogenic by NTP. Dermatitis may result from exposure to chromium fumes.

Nickel: IARC lists metallic nickel under its Group 2B category – "possibly carcinogenic to humans." Nickel may cause skin sensitivity.

COBALT: Cobalt dust may result in an asthma-like condition (cough, shortness of breath). IARC lists metallic cobalt under its Group 2B category – "possibly carcinogenic to humans."

COPPER: Copper fumes my result in Wilson's Disease (characterized by hepatic cirrhosis, brain damage, demyelination, renal disease, and copper deposition in the cornea.

IRON: Inhalation overexposures may cause a benign pneumoconiosis (siderosis) with few or no symptoms.

MANGANESE: Existing studies are inadequate to assess its carcinogenicity. Susceptible to Parkinson's disease, metal fume fever and kidney damage.

11. TOXICOLOGICAL INFORMATION CONT.

STOT (Single Exposure):	No data
STOT (Repeated Exposure):	Respiratory system. Allergic skin reactions.
Mutagenicity of Material:	N/A
Reproductive Effects:	N/A
Teratogenicity of Material	N/A
Carcinogenicity of Material	CHROMIUM: IARC lists certain hexavalent chromium compounds under its Group 1 category "confirmed carcinogenicity to humans." And metallic chromium under it's group 3 category – "not classifiable as to their carcinogenicity to humans." Chromium metal is classified as a carcinogenic by NTP. Nickel: IARC lists metallic nickel under its Group 2B category – "possibly carcinogenic to humans. COBALT: IARC lists metallic cobalt under it's Group 2B category – "possibly carcinogenic to humans."
Synergistic Materials:	N/A
Aspiration Hazard	No Data
Sensitization of Material	N/A

LD_{50} (of Material)	Not established	LC_{50} (of Material)	Not established

Notes:

- STOT – Specific Target Organ Toxicity
- International Agency for Research on Cancer (IARC) Summaries & Evaluation (2008)
- 3rd Annual Report on Carcinogens as prepared by the National Toxicology Program (NTP)Iron containing welding fume has an exposure limit of 5 mg/m3 (ACGIH-TLV'S 2011), welding fume may also contain contaminants from flues or welding consumables. Prolonged skin contact may cause reddening and drying of skin or dermatitis in sensitive individuals due to nickel and/or chromium content in steel.

11. ECOLOGICAL INFORMATION

ECOTOXICITY: No data available in the stainless steel in its natural solid state. However, individual components of the material has been found to be toxic to the environment.

COMPONENT	TOXICITY TO FISH	TOXICITY TO ALGAE	TOXICITY TO MICROORGANISMS
Iron	LC_{50} Common Carp 96 hr. 0.56 mg/l	-	-
Chromium	LC_{50} Fathead minnow 96 hr. 10-100 mg/l	-	-
Nickel	LC_{50} Common Carp 96 hr. 1.3 mg/l	EC_{50} Freshwater Algae 72 hr. 0.18 mg/l	EC50 Water Flea 48 hr. 1.0 mg/l

PERSISTENCE AND DEGRADABILITY: No data available

BIOACCUMULATIVE POTENTIAL: No data available

MOBILITY IN SOIL: No data available for stainless steel in its natural solid state. Individual metal dusts may mitigate into soil and groundwater and be absorbed by plants.

OTHER ADVERSE EFFECTS None known.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Steel scrap should be recycled whenever possible.

Container Cleaning and Disposal: Dispose of in accordance with applicable federal, provincial/state or local regulations.

14. TRANSPORTATION INFORMATION

GENERAL SHIPPING INFORMATION: Stainless steel is not regulated for shipping.

SHIPPING NAME AND DESCRIPTION: N/A
UN NUMBER: N/A
HAZARD CLASS: N/A
PACKING GROUP/RISK GROUP: N/A

NOTE: Stainless steel transported in coiled from is under tension and represents a significant source of potential energy due to the tension induced by coiling; it will uncoil to try to lay flat in a long strip when banding is cut or other forces are released. Uncoiling can be sudden and catastrophic and measures should be taken to ensure that uncoiling will not occur.

TRANSPORT REGULATIONS:
Canadian Transportation of Dangerous Goods Regulations (TDG) March 2011
US Department of Transportation (DOT) Hazardous Materials shipping information (Title 49 – Transportation March 2011)

15. REGULATORY INFORMATION

REGULATORY INFORMATION: The following listing of regulation relating to North American Stainless product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.

ADDITIONAL CANADIAN REGULATIONS:
WHIMS CLASSIFICATION: Class D2A/D28: Materials causing other toxic effects.
DOMESTIC SUBSTANCES LIST: The components of this material are on the federal DSL inventory
OTHER CANADIAN REGULATIONS: N/A

ADDITIONAL US REGUALTIONS: The components of this material are subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA = Oct 2006) as follows:

CHEMICAL NAME	**SARA 302 (40 CFR 355, Appendix A)**	**SARA 304 (40 CFR Table 302.4)**	**SARA 313 (40 CFR 372.65)**	**CERCLA Reportable quantities**
Aluminum	No	No	Yes	None listed
Chromium	No	No	Yes	5,000 lb.
Cobalt	No	No	Yes	None listed
Copper	No	No	Yes	5,000 lb.
Manganese	No	No	Yes	None listed
Nickel	No	No	Yes	100 lb.

15. REGULATORY INFORMATION CONT.

SARA THRESHOLD PLANNING QUANTITY:	There are no specific Threshold Planning Quantities for the components of the material. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs. (4.540 kg) therefore applies, per 40 CFR 370.20.
TSCA INVENTORY STATUS:	The components for this material are listed on the Toxic Substances Control Act Inventory.
CERCLA REPROTABLE QUANTITY (RQ):	RQ'S for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are : Chromium = 5,000 lbs. (2270 kg); Cooper = 5,000 lbs. (2270 kg); Nickel = 500 lb. (45 kg).
CALIFORNIA (PROPOSITION 65)	The Chromium (VI) component of this material is known in the State of California to cause cancer. The Nickel component of this material is known in the State of California to cause cancer. The Cobalt component of this material is known in the State of California to cause cancer. Arsenic (inorganic), Cadmium and Lead are possible trace elements known in the State of California to cause cancer.
OTHER FEDERAL REGULATIONS:	PENNSYLVANIA R-T-K LIST: Aluminum, Manganese, Molybdenum, Nickel, Silicon, Chromium, Cobalt, Copper and Tantalum. NEW JERSEY R-T-K LIST: Aluminum, Chromium, Copper, Cobalt, Manganese and Nickel.

16. OTHER INFORMATION

STAINLESS STEEL

HAZARD LABEL RATING SYSTEMS:

NATIONAL FIRE PROTECTION CODE:

NFPA H=0 F=0 R=0

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM:

HMIS CODE: H=1* F=0 R=0 PPE: SEE SECTION 8

*Denotes possible chronic hazard if airborne dusts or fumes are generated.

HEALTH	1*
FLAMMABILITY	0
REACTIVITY	0
OTHER	

PREPARED BY:	NORTH AMERICAN STAINLESS
TELEPHONE:	502-347-6000
DATE:	APRIL 2015
DISCLAIMER:	THE INFORMATION CONTAINED HERIN BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR RESULTS OBTAINED FROM THE USE THEREOF.

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name: STRUST SSPR 6PK FLAT GALVANIZING COMPND

Revision Date: 5/15/2015

Product Identifier: 7785830

Supercedes Date: New SDS

Product Use/Class: Galvanizing Compound/Aerosols

Supplier: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Manufacturer: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL 60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if swallowed. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN. Harmful if inhaled. Causes eye irritation. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation.

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
65% of the mixture consists of ingredient(s) of unknown acute toxicity

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Flammable Liquid, category 1	H224	Extremely flammable liquid and vapor.
Acute Toxicity, Oral, category 5	H303	May be harmful if swallowed.
Acute Toxicity, Dermal, category 5	H313	May be harmful in contact with skin.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Aspiration Hazard, category 2	H305	May be harmful if swallowed and enters airways.
Eye Irritation, category 2B	H320	Causes eye irritation.
Flammable Aerosol, category 1	H280	Contains gas under pressure; may explode if heated.

Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects. Classified as mutagenic Category 1 if one ingredient is present at or above 0.1%. Applies to liquids, solids (w/w units) and gases (v/v). The substance may also have its own exposure limit. Routes of exposure are dependent on ingredient form.
Carcinogenicity, category 1B	H350	May cause cancer. Classified as carcinogenic Category 1 on the basis of epidemiological and/or animal data. Mixtures are classified as carcinogenic when at least 1 ingredient has been classified as carcinogenic and is present at 0.1% or above Routes of exposure are dependant on ingredient form.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child. Classifed Category 2 suspected human reproductive toxicant irreversible effects such as structural malfunctions, embryo/foetal lethality, post natal functional deficiencies.
STOT, repeated exposure, category 2	H373	May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.

GHS LABEL PRECAUTIONARY STATEMENTS

P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P375	Fight fire remotely due to the risk of explosion.
P102	Keep out of reach of children.
P103	Read label before use.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash … thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P374	Fight fire with normal precautions from a reasonable distance.
P402	Store in a dry place.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P403+P235	Store in a well-ventilated place. Keep cool.
P362	Take off contaminated clothing and wash before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P201	Obtain special instructions before use.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P350	Gently wash with plenty of soap and water.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Zinc	7440-66-6	25-50	GHS02	H228-250-251-260
Toluene	108-88-3	10-25	GHS02-GHS07-GHS08	H225-302-332-361-336-373-315
Propane	74-98-6	10-25		
Mineral Spirits	64742-88-7	2.5-10	GHS06-GHS08	H331-372
n-Butane	106-97-8	2.5-10		

Stoddard Solvent	8052-41-3	1.0-2.5	GHS02-GHS08	H224-340-350-372
Ethylbenzene	100-41-4	0.1-1.0	GHS02-GHS07	H225-332

The text for GHS Hazard Statements shown above (if any) is given in the "16. Other Information" section.

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Zinc	7440-66-6	50.0	10 mg/m3 (Dust)	N.E.	15 mg/m3 (Dust)	N.E.
Toluene	108-88-3	25.0	20 ppm	N.E.	200 ppm	300 ppm
Propane	74-98-6	15.0	1000 ppm	N.E.	1000 ppm	N.E.
Mineral Spirits	64742-88-7	10.0	100 ppm	N.E.	100 ppm	N.E.
n-Butane	106-97-8	5.0	1000 ppm	1000 ppm	N.E.	N.E.
Stoddard Solvent	8052-41-3	5.0	100 ppm	N.E.	500 ppm	N.E.
Ethylbenzene	100-41-4	1.0	20 ppm	125 ppm	100 ppm	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Liquid	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	1.319	**pH:**	N.D.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Slight	**Partition Coefficient, n-octanol/water:**	No Information
Decompostion Temp., °C:	No Information		
Boiling Range, °C:	-11 - 400	**Explosive Limits, vol%:**	0.7 - 9.5
Flammability:	Does not Support Combustion	**Flash Point, °C:**	>94
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	No Information
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition. Avoid contact with strong acid and strong bases.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: May be absorbed through the skin in harmful amounts. Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness,

dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
108-88-3	Toluene	636 mg/kg Rat	8390 mg/kg Rabbit	12.5 mg/L Rat
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
64742-88-7	Mineral Spirits	>5000 mg/kg Rat	3000 mg/kg Rabbit	>5.28 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15354 mg/kg Rabbit	17.2 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Zinc	7440-66-6
Toluene	108-88-3
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

CALIFORNIA PROPOSITION 65:

WARNING: This product contains a substance known to the State of California to cause cancer.

Chemical Name	CAS-No.
Ethylbenzene	100-41-4
Cadmium Compounds	7440-43-9
Benzene	71-43-2
Lead Compounds	7439-92-1

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

WARNING: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

Chemical Name	CAS-No.
Toluene	108-88-3
Cadmium Compounds	7440-43-9
Benzene	71-43-2
Lead Compounds	7439-92-1

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

CANADIAN WHMIS CLASS: AB5 D2A

NFPA RATINGS

Health: 2 **Flammability:** 4 **Instability** 0

VOLATILE ORGANIC COMPOUNDS, g/L: 610

MSDS REVISION DATE: 5/15/2015

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H250	Catches fire spontaneously if exposed to air.
H251	Self-heating: may catch fire.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H331	Toxic if inhaled.

H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H350	May cause cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H361	Suspected of damaging fertility or the unborn child. Classifed Category 2 suspected human reproductive toxicant irreversible effects such as structural malfunctions, embryo/foetal lethality, post natal functional deficiencies.
H372	Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H373	May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS06

GHS07

GHS08

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Safety Data Sheet
acc. to OSHA HCS

Printing date 04/08/2015 *Reviewed on 04/08/2015*

*
1 Identification

· **Product identifier**

· **Trade name: SULFLO 1**

· **Article number:** SUL-10221

· **Details of the supplier of the safety data sheet**
· **Manufacturer:**
SULFLO
1158 Erie Avenue, Box 728, N. Tonawanda, NY 14120
USA
info@sulflo.com

· **Information department:** Technical Department
· **Emergency telephone number:** During Normal Operating Hours: +1 (716) 695-3585

*
2 Hazard(s) identification

· **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 1
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
7704-34-9	sulfur	2.5-<10%

4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Trade name: SULFLO 1

(Contd. of page 1)

· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling** No special measures required.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
64742-52-5 Distillates (petroleum), hydrotreated heavy naphthenic (50-100%)	
ACGIH TLV	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³
OSHA PEL	Long-term value: 5 mg/m³

(Contd. on page 3)

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64742-52-5 Distillates (petroleum), hydrotreated heavy naphthenic (25-50%)	
ACGIH TLV	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³
OSHA PEL	Long-term value: 5 mg/m³

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
· **Breathing equipment:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Pasty
Color:	Yellow
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	370 °C (698 °F)
· **Flash point:**	164 °C (327 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	> 315 °C (> 599 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.

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· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	0.96023 g/cm³ (8.013 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with Water:**	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic at 40 °C (104 °F):	46 mm²/s
· **Solvent content:**	
Organic solvents:	0.0 %
Solids content:	5.2 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** Smaller quantities can be disposed of with household waste.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, ADN, IMDG, IATA**	not regulated
· **UN proper shipping name**	
· **DOT, ADN, IMDG, IATA**	not regulated
· **Transport hazard class(es)**	
· **DOT, ADN, IMDG, IATA**	
· **Class**	not regulated
· **Packing group**	
· **DOT, IMDG, IATA**	not regulated
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

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· **UN "Model Regulation":** -

*
15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Technical Department
· **Contact:** Mr. Wenzler
· **Date of preparation / last revision** 04/08/2015 / 1
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

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IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)

· **** Data compared to the previous version altered.***

US

SAFETY DATA SHEET

1. Identification

Product identifier	**Super White™ Multi-Purpose Lithium Grease**
Other means of identification	
Product code	SL3150, SL3151, SL3155, SL3159, SL3360, SL3361
Recommended use	Multi-purpose grease
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	May cause an allergic skin reaction. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Avoid breathing vapors. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Avoid release to the environment.
Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), hydrotreated heavy naphthenic		64742-52-5	80 - 90
Zinc oxide		1314-13-2	3 - 5
Calcium bis(dinonylnaphthalenesulphonate)		57855-77-3	< 1

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. Do not use mouth-to-mouth method if victim inhaled the substance. Call a physician if symptoms develop or persist.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Drink 1 or 2 glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed
Irritation of eyes and mucous membranes. May cause an allergic skin reaction. Rash. Skin irritation. Dermatitis.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Collect spill using a vacuum cleaner with a HEPA filter. Avoid dust formation. Place all material into loosely covered plastic containers for later disposal. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Environmental precautions
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling
Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Use care in handling/storage. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m3	Respirable fraction.
		5 mg/m3	Fume.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		5 mg/m3	Fume.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Neoprene.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Grease.
Color	White.
Odor	Petroleum.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	680 °F (360 °C) estimated
Flash point	475 °F (246.1 °C) Cleveland Open Cup
Evaporation rate	Very slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	1066.6 hPa estimated
Vapor density	> 5 (air = 1)
Relative density	0.9
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	145 - 185 cSt (104 °F (40 °C))
Percent volatile	Not available.
Other information	
Pour point	0 °F (-17.8 °C)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Metal oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Health injuries are not known or expected under normal use.
Skin contact	May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Rash. Irritation of eyes and mucous membranes. Skin irritation. May cause an allergic skin reaction. Dermatitis.

Information on toxicological effects

Acute toxicity	May cause an allergic skin reaction.

Product	Species	Test Results
Super White™ Multi-Purpose Lithium Grease		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not available.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not likely, due to the form of the product.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Chronic effects	Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
Super White™ Multi-Purpose Lithium Grease			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	3.3075 mg/l, 48 hours estimated
Fish	LC50	Fish	37.1245 ppm, 96 hours estimated

Components		Species	Test Results
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5000 mg/l, 96 hours
Titanium dioxide (CAS 13463-67-7)			
Acute			
Other	EC50	Pseudokirchnerella subcapitata	5.83 mg/l, 72 hours
Chronic			
Other	NOEC	Pseudokirchnerella subcapitata	0.984 mg/l, 72 hours
Aquatic			
Acute			
Crustacea	LC50	Ceriodaphnia dubia	3 mg/l, 48 hours
		Water flea (Daphnia magna)	5.5 ppm, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	1000 mg/l, 96 hours

Components		Species	Test Results
Zinc oxide (CAS 1314-13-2)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	0.098 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.1 ppm, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not readily biodegradable.

Bioaccumulative potential No data available.

Bioconcentration factor (BCF)

Titanium dioxide	352

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Zinc oxide (CAS 1314-13-2)

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc oxide (CAS 1314-13-2)

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Titanium dioxide (CAS 13463-67-7)
Zinc oxide (CAS 1314-13-2)

US. Massachusetts RTK - Substance List

Titanium dioxide (CAS 13463-67-7)
Zinc oxide (CAS 1314-13-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Zinc oxide (CAS 1314-13-2)
Titanium dioxide (CAS 13463-67-7)

US. Rhode Island RTK

Zinc oxide (CAS 1314-13-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	100 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	< 0.1 %
VOC content (OTC)	< 0.1 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 01-19-2015

Prepared by Allison Cho

Version # 01

Further information Not available.

HMIS® ratings
Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 1
Flammability: 1
Instability: 0

NFPA ratings

Disclaimer

CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

Material Safety Data Sheet

SUPERMEND HARDENER

1 . Product and company identification

Product name : SUPERMEND HARDENER

Supplier : Eclectic Products Inc.
1075 Arrowsmith
Eugene, OR 97402
541-484-9621

Material uses : Consumer products: Consumer product.

Manufacturer : Eclectic Products Inc.
1075 Arrowsmith
Eugene, OR 97402
541-484-9621

Code : 1085331

Validation date : **11/6/2013.**

Print date : 11/6/2013.

Responsible name : **Regulatory Compliance**

In case of emergency : CALL INFOTRAC
1-800-535-5053 or 001-352-323-3500

2 . Hazards identification

Physical state : Liquid. [Paste.]

Emergency overview : DANGER!

CAUSES EYE AND SKIN BURNS. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

Corrosive to eyes and skin. Causes burns. May be harmful if absorbed through skin or if swallowed. Severely irritating to the respiratory system. May cause sensitization by skin contact. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation : Severely irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin : Corrosive to the skin. Causes burns. Harmful in contact with skin. May cause sensitization by skin contact.

Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: skin.

Over-exposure signs/symptoms

2 . Hazards identification

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing skin disorders may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
Nonyl Phenol	84852-15-3	10-30
N-Aminoethylpiperazine	140-31-8	10-30
Crystalline Silica	14808-60-7	<1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Product name	Exposure limits
Crystalline Silica	**OSHA PEL Z3 (United States, 9/2005).** TWA: 250 MPPCF / (%SiO2+5) 8 hour(s). Form: Respirable TWA: 10 MG/M3 / (%SiO2+2) 8 hour(s). Form: Respirable TWA: 30 MG/M3 / (%SiO2+2) 8 hour(s). Form: Total dust. **OSHA PEL 1989 (United States, 3/1989).** TWA: 0.1 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust **ACGIH TLV (United States, 3/2012).** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction **NIOSH REL (United States, 1/2013).** TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Precautions to be taken in use: : This product may contain materials classified as nuisance particulates, which may be present at hazardous levels only during sanding or abrading of the dried film. Wear a dust/mist respirator approved for dust when dusts are generated from sanding or abrading the dried film.

9 . Physical and chemical properties

Physical state : Liquid. [Paste.]

Flash point : Open cup: 137.78°C (280°F)

Color : White.

Odor : Not available.

Boiling/condensation point : 304.44°C (580°F)

Specific gravity : 1.53

Estimated Vapor Density : >1 [Air = 1]

VOC % : 0.6211%

Evaporation rate : >1 (butyl acetate = 1)

Solubility : Partially soluble in the following materials: water.

10 . Stability and reactivity

Stability : The product is stable.

Conditions to avoid : No specific data.

Materials to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions of reactivity : Flammable in the presence of the following materials or conditions: heat.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Nonyl Phenol	LD50 Oral	Rat	1882 mg/kg	-
	LD50 Oral	Rat	1300 mg/kg	-
	LDLo Dermal	Rabbit	3160 mg/kg	-
	TDLo Oral	Rat	10 mg/kg	-
N-Aminoethylpiperazine	LD50 Dermal	Rabbit	880 uL/kg	-
	LD50 Oral	Rat	2140 uL/kg	-
Crystalline Silica	LDLo Intratracheal	Rat	250 mg/kg	-
	LDLo Intratracheal	Rat	>200 mg/kg	-
	LDLo Intravenous	Rat	90 mg/kg	-
	TDLo Intratracheal	Rat	150 mg/kg	-
	TDLo Intratracheal	Rat	100 mg/kg	-
	TDLo Intratracheal	Rat	50 mg/kg	-
	TDLo Intratracheal	Rat	30 mg/kg	-
	TDLo Intratracheal	Rat	25 mg/kg	-
	TDLo Intratracheal	Rat	15.69 mg/kg	-
	TDLo Intratracheal	Rat	10 mg/kg	-
	TDLo Intratracheal	Rat	5 mg/kg	-
	TDLo Intratracheal	Rat	1.5 mg/kg	-
	TDLo	Rat	1 mg/kg	-

11 . Toxicological information

Intratracheal TDLo	Rat	1250 ug/kg	-
Intratracheal TDLo Oral	Rat	120 g/kg	-

Carcinogenicity

Conclusion/Summary

Limestone and natural iron oxide used in making this product contain crystaline silica as an impurity. Repeated, prolonged exposure to respirable crystalline dusts may increase the risk of developing a disabling lung disease called silicosis. The International Agency for Research on Cancer (IARC) reports there is sufficient evidence in humans for the carcinogencity of inhaled crystalline silica from occupational sources. Based on studies of workers in industrial and occupational settings, The National Toxicology Program (NTP) Ninth Report on Carcinogens lists crystalline silica (respirable) as a substance known to be a carcinogen to humans.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Crystalline Silica	A2	1	-	+	Proven.	-

IDLH : Not available.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Nonyl Phenol	-	Acute EC50 0.41 mg/L Fresh water	Algae - Green algae - Pseudokirchneriella subcapitata	96 hours
	-	Acute EC50 0.33 mg/L Fresh water	Algae - Green algae - Pseudokirchneriella subcapitata	72 hours
	-	Acute EC50 0.03 mg/L Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	72 hours
	-	Acute EC50 0.029 mg/L Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	96 hours
	-	Acute EC50 0.027 mg/L Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	96 hours
	-	Acute EC50 137 ug/L Marine water	Crustaceans - Amphipod - Eohaustorius estuarius - Adult	48 hours
	-	Acute LC50 >0.047 mg/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia - Juvenile (Fledgling, Hatchling,	48 hours

12 . Ecological information

			Weanling) - <24 hours	
	-	Acute LC50 142 ug/L Marine water	Fish - Sheepshead minnow - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	-	Acute LC50 138.25 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 4 weeks	96 hours
	-	Acute LC50 135.1 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 4 weeks	96 hours
	-	Acute LC50 70 ug/L Marine water	Fish - Inland silverside - Menidia beryllina - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	-	Acute LC50 17 ug/L Marine water	Fish - Winter flounder - Pleuronectes americanus - Larvae - 2 days	96 hours
	-	Chronic NOEC 30 ug/L Fresh water	Fish - Zebra danio - Danio rerio - Fry - 2 days es0:a56s:7pt	160 days
	-	Chronic NOEC 23 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Embryo - <24 hours	33 days
	-	Chronic NOEC 7.4 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Embryo - <24 hours	33 days
	-	Chronic erd:i44c:7pt 0.12 mg/L Fresh water	Algae - Green algae - Pseudokirchneriella	96 hours

12 . Ecological information

			subcapitata	
	-	Chronic erd:i44c:7pt 0.013 mg/L Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	72 hours
	-	Chronic erd:i44c:7pt 0.012 mg/L Marine water	Algae - ek0:83n0:7pt - Skeletonema costatum	96 hours
N-Aminoethylpiperazine	-	Acute LC50 2190000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 21 mm - 0.147 g	96 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

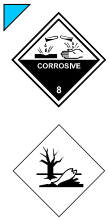
13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	1760	CORROSIVE LIQUID, N.O.S. (Nonyl Phenol, N-Aminoethylpiperazine). Marine pollutant (Nonyl Phenol)	8	III		**Limited quantity** Yes.
TDG Classification	1760	CORROSIVE LIQUID, N.O.S. (Aliphatic amine., Nonyl Phenol)	8	III		-

14 . Transport information

IMDG Class	1760	CORROSIVE LIQUID, N.O.S. (Nonyl Phenol, Aliphatic amine.). Marine pollutant (Nonyl Phenol)	8	III		**Emergency schedules (EmS)** F-A, S-B **Remarks** Limited quantity
IATA-DGR Class	1760	CORROSIVE LIQUID, N.O.S. (Nonyl Phenol, N-Aminoethylpiperazine)	8	III		-

PG* : Packing group

15 . Regulatory information

U.S. Federal regulations : **TSCA 8(b) inventory**: All components are listed or exempted.
SARA 311/312 - Acute, Chronic

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive
Crystalline Silica	Yes.	No.

Canada

WHMIS (Canada) : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material

Canada inventory : All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Mexico

Classification :

EU regulations

Hazard symbol or symbols :

15 . Regulatory information

Risk phrases : R61- May cause harm to the unborn child.
R62- Possible risk of impaired fertility.
R22- Also harmful if swallowed.
R34- Causes burns.
R43- May cause sensitization by skin contact.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S53- Avoid exposure - obtain special instructions before use.
S2- Keep out of the reach of children.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S29- Do not empty into drains.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

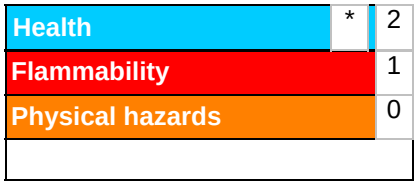
International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

EU Inventory : Not determined.

16 . Other information

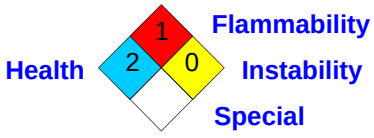
Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



Date of printing : **11/6/2013.**

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Date of previous issue : **3/4/2011.**

Version : **1.05**

Indicates information that has changed from previously issued version.

Notice to reader

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Material Safety Data Sheet

SUPERMEND RESIN

1 . Product and company identification

Product name : SUPERMEND RESIN

Supplier : Eclectic Products Inc.
1075 Arrowsmith
Eugene, OR 97402
541-484-9621

Material uses : Consumer products: Consumer product.

Manufacturer : Eclectic Products Inc.
1075 Arrowsmith
Eugene, OR 97402
541-484-9621

Code : 1085330

Validation date : **11/30/2009.**

Print date : 11/30/2009.

Responsible name : **Regulatory Compliance**

In case of emergency : CALL INFOTRAC
800-535-5053
001-352-323-3500

2 . Hazards identification

Physical state : Liquid.

Emergency overview : WARNING !

CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation : Irritating to respiratory system.

Ingestion : No known significant effects or critical hazards.

Skin : Irritating to skin. May cause sensitization by skin contact.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

2 . Hazards identification

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing skin disorders may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3 . Composition/information on ingredients

Name	CAS number	%
Bisphenol A/Epichlorohydrin Epoxy Resin	Mixture	30-60
Titanium Dioxide	13463-67-7	1-5
Crystalline Silica	14808-60-7	<1

There are no ingredients or additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products : Decomposition products may include the following materials:
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Product name	Exposure limits
Titanium Dioxide	**ACGIH TLV (United States, 1/2008). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A - - Carcinogens.** TWA: 10 mg/m³ 8 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 15 mg/m³ 8 hour(s). Form: Total dust **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hour(s). Form: Total dust
Crystalline Silica	**ACGIH TLV (United States, 1/2008). Notes: Respirable fraction; see Appendix C, paragraph C.** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction **NIOSH REL (United States, 6/2008). Notes: See Appendix A - NIOSH Potential Occupational Carcinogen** TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust **OSHA PEL 1989 (United States, 3/1989). Notes: as quartz** TWA: 0.1 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust **OSHA PEL Z3 (United States, 9/2005).** TWA: 10 mg/m³ 8 hour(s). Form: Respirable TWA: 30 mg/m³ 8 hour(s). Form: Total dust. TWA: 250 mppcf 8 hour(s). Form: Respirable

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Precautions to be taken in use: : This product may contain materials classified as nuisance particulates, which may be present at hazardous levels only during sanding or abrading of the dried film. Wear a dust/mist respirator approved for dust when dusts are generated from sanding or abrading the dried film.

9 . Physical and chemical properties

Physical state : Liquid.

Flash point : Open cup: >93.333°C (>200°F)

Color : White.

Odor : Not available.

Boiling/condensation point : 182.22°C (360°F)

Specific gravity : 1.71

Estimated Vapor Density : >1 [Air = 1]

VOC % : 0.2545%

Evaporation rate : >1 (Butyl acetate. = 1)

Solubility : Partially soluble in the following materials: water.

10 . Stability and reactivity

Stability : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Materials to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium Dioxide	LD Intratracheal	Rat	>100 ug/kg	-
	TDLo Intratracheal	Rat	5 mg/kg	-
	TDLo Intratracheal	Rat	1.6 mg/kg	-
	TDLo Intratracheal	Rat	1.25 mg/kg	-
	TDLo Oral	Rat	60 gm/kg	-
Crystalline Silica	LDLo Intratracheal	Rat	250 mg/kg	-
	LDLo Intratracheal	Rat	200 mg/kg	-
	LDLo Intravenous	Rat	90 mg/kg	-
	TDLo Intratracheal	Rat	100 mg/kg	-
	TDLo Intratracheal	Rat	50 mg/kg	-
	TDLo Intratracheal	Rat	30 mg/kg	-
	TDLo Intratracheal	Rat	25 mg/kg	-
	TDLo Intratracheal	Rat	15.69 mg/kg	-
	TDLo Intratracheal	Rat	10 mg/kg	-
	TDLo Intratracheal	Rat	10 mg/kg	-
	TDLo Intratracheal	Rat	5 mg/kg	-
	TDLo Intratracheal	Rat	1.5 mg/kg	-
	TDLo Intratracheal	Rat	1 mg/kg	-

11 . Toxicological information

TDLo Intratracheal	Rat	1 mg/kg	-
TDLo Intratracheal	Rat	1250 ug/kg	-
TDLo Intratracheal	Rat	150 mg/kg	-
TDLo Intratracheal	Rat	150 mg/kg	-
TDLo Oral	Rat	120 gm/kg	-

Carcinogenicity

Conclusion/Summary

Limestone and natural iron oxide used in making this product contain crystaline silica as an impurity. Repeated, prolonged exposure to respirable crystalline dusts may increase the risk of developing a disabling lung disease called silicosis. The International Agency for Research on Cancer (IARC) reports there is sufficient evidence in humans for the carcinogencity of inhaled crystalline silica from occupational sources. Based on studies of workers in industrial and occupational settings, The National Toxicology Program (NTP) Ninth Report on Carcinogens lists crystalline silica (respirable) as a substance known to be a carcinogen to humans.

The International Agency for Research on Cancer (IARC) Monograph No. 93 reports there is sufficient evidence in experimental animals exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans. Human studies do not suggest an association between occupational exposure to titanium dioxide dust and an increased risk of cancer. The IARC summary concludes, "that no significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint".

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Titanium Dioxide	-	2B	-	-	-	-
Crystalline Silica	A2	1	-	+	Proven.	-

IDLH : Not available.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Titanium Dioxide	-	Acute EC50 >1000000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 >1000000 ug/L Marine water	Fish - Fundulus heteroclitus	96 hours
	-	Chronic NOEC 500 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	-	Chronic NOEC 1 ppm Fresh water	Daphnia - Daphnia magna	48 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15 . Regulatory information

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 311/312 - Acute, Chronic

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive
Crystalline Silica	Yes.	No.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists : **CEPA Toxic substances**: None of the components are listed.

Canadian NPRI: None of the components are listed.

Canada inventory : **Canada inventory:** All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Mexico

Classification :

EU regulations

Risk phrases : This product is not classified according to EU legislation.

International regulations

15 . Regulatory information

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory (KECI): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Japan inventory (ENCS): Not determined.
Europe inventory: Not determined.

16 . Other information

Hazardous Material Information System (U.S.A.) :

Health	2
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

Date of printing : **11/30/2009.**
Date of issue : **11/30/2009.**
Date of previous issue : **11/3/2008.**
Version : **2.03**

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Version 1.0
Revision Date 05/20/2015

SECTION I. IDENTIFICATION

Product identifiers

Product name : SynClean HD

Brand : EMS

Relevant indentified uses of the substance or mixture and uses advised against

Identified uses : High foaming industrial strength degreaser

Details of the supplier of the safety data sheet

Company : Environmental Manufacturing Solutions, LTD
7705 Progress Circle
Melbourne, FL 32904
USA

For product information only

Telephone : +1 877-424-6979
Fax : +1 800-510-3861

Emergency telephone number

Emergency Phone # : **Chemtrec**
: +1 800-424-9300 (Within USA)
: (703) 527-3887 (Outside USA)

SECTION II. HAZARD IDENTIFICATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: **Warning**
Symbols: **Not Applicable**
Hazard Statements: **May be harmful if swallowed**
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

SECTION III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.
NOTE:
The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency.

There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

SECTION IV. FIRST AID MEASURES

Description of first aid measures

General advice
It is always recommended to consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Remove any contaminated clothing first. Wash off with soap and plenty of water. If irritation occurs consult a physician.

In case of eye contact
If wearing contacts, first remove. Flush eyes with water as a precaution. If irritation occurs consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. If irritation occurs consult a physician.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labeling (see section 2) and/or section 11

Indication of any immediate medical attention and special treatment needed
No data available

SECTION V. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media
Product does not support combustion, use extinguishing agent for type of surrounding fire.

Special hazards arising from the substance or mixture
No data available

Advice for firefighters
Wear self contained breathing apparatus for firefighting if necessary

Further information
No data available

SECTION VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing any vapors or mist. Ensure adequate ventilation.
Move personnel to safe areas.
For personal protection see section 8

Methods and materials for containment
Soak up with inert absorbent material and dispose of in accordance with local and state disposal regulations.
Keep in suitable closed containers for proper disposal.

Reference to other sections
For disposal see section 13

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2

Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well ventilated place. Open containers must be carefully closed/resealed and kept upright to prevent leakage. Do not mix with strong oxidizing agents

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering equipment
Handle in accordance with good industrial hygiene and safety practices. Personal protective equipment may be worn for added safety in accordance with the below recommended equipment. Wash hands before all breaks and at the end of the workday.

Personal protective equipment

Eye/face protection
While eye protection is not required, where protection from nuisance levels are desired, use equipment for eye protection tested and approved under appropriate government standards such as
NIOSH (US) or EN 166(EU).

Skin protection
While skin protection is not required, where protection from nuisance levels are desired, Gloves must be inspected prior to use. Use proper glove removal technique. Dispose of contaminated gloves after
use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber

Splash contact
Material: Nitrile rubber

If mixed with other substances, and under conditions which differ from product directions, contact your glove supplier. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
While body protection is not required, where protection from nuisance levels are desired, choose body protection in relation to its type, to the concentration and to the specific work-place.

Respiratory protection
While Respiratory protection is not required, where protection from nuisance levels are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter storm drains.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

a)	Appearance	Form: Liquid
b)	Odor	Mild soapy
c)	Odor Threshold	No data available
d)	pH	No data available
e)	Freeze/melting point	≤ 30F

f)	Boiling point	≥ 212 F
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper flammability limits	No data available
k)	Lower flammability limits	No data available
l)	Vapor pressure	No data available
m)	Vapor density	No data available
n)	Specific gravity	1.02 ± 0.02
o)	Water Solubility	100% Soluble
p)	Partition coefficient	No data available
q)	Auto-ignition temperature	No data available
r)	Decomposition temperature	No data available
s)	Kinematic viscosity	No data available
t)	Explosive properties	No data available
u)	Oxidizing properties	No data available

Other safety information
No data available
These physical properties are typical values for this product and not specifications. No other data available.

SECTION X. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions

Possibility of hazardous reactions
No data available

Conditions to avoid
No data available

Incompatible materials

Acids Acids or Strong oxidizing agents

Hazardous decomposition products
Other decomposition products -no data available
In the event of fire, see section 5

SECTION XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity
LD50 Oral - rat – 3,240 mg/kg

Respiration: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation:
no data available

Serious eye damage/eye irritation:
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly Investigated by any agency, governmental or otherwise.

SECTION XII. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
Does not bioaccumulate

Mobility in soil
no data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
no data available

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

Note: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION XIV. TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

Note: The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods.

SECTION XV. REGULATORY INFORMATION

US FEDERAL

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Components

None of the chemicals in this product have a TPQ. No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other *rep*roductive harm..

European/International Regulations
European Labeling in Accordance with EC Directives

European Economic Community
Classification per Directive 67/548/EEC or 1999/45/EC
Not Classified

Risk Phrases: None allocated

Safety Phrases: S2-Keep out of reach of children
S24/25 Avoid contact with skin and eyes

WGK, Germany (Water danger/protection): No data available

Canada - DSL/NDSL
This product is listed on Canada's DSL List.
Canada - WHMIS
WHMIS: Not available.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. Canadian Ingredient Disclosure List: N/A

SECTION XVI. OTHER INFORMATION

OTHER INFORMATION

HMIS Rating
Health hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions and directed uses. Environmental Manufacturing Solutions. LTD. and its Affiliates shall not be held liable for any damage resulting from handling, mishandling or from contact with the above product.

MSDS - Material Safety Data Sheet
Product Name: SYNTHETIC POWER STEERING FLUID PROTECTANT

MSDS No.: M2704SPF

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY
Address: 600 RADIATOR ROAD
City, ST Zip: INDIAN TRAIL, NC 28079
Country:

Contact: Robert Geer
Information Telephone Number: 704-684--181 1
Emergency Contact: Rocky Mountain Poision Control Center
Emergency Telephone Number: 303-623-5716
Emergency Restrictions:

Product Name: SYNTHETIC POWER STEERING FLUID PROTECTANT
MSDS No.: M2704SPF

Issue Date: 12/08/2009
Supersedes Date: 07/14/2009

II. Hazards Identification:

EMERGENCY OVERVIEW

Do not take internally
Defined by IARC as Class I mineral oil.

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects

Route(s) of Entry:

Absorption, Inhalation, and Ingestion.

Health Hazards (Acute and Chronic):

See signs and symptoms below

Signs and Symptoms:

Contact with eye can be irritating.
Contact with skin can be irritating.
Inhalation of oil mist and vapors may cause sligh headaches, dizziness, nausea, coughing, bronchial irritation and dryness.
Ingestion of this product may cause cramps & diarrhea.

Medical Conditions Generally Aggravated by Exposure:

None Known

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

Potential Environmental Effects

Not Available

III. Composition/Information on Ingredients:

Chemical Name	CAS No.	% Range	Trade Secret
Alky Acid Phosphate	68307-94-8	1.0 - 5.0	
Amines, Soya alkyl, ethoxylated	61791-24-0	15.0 - 40.0	
Antiwear Additive	Proprietary	1.0 - 5.0	
Benzotriazole derivative	Proprietary	< 0.5	
Hydrotreated Heavy Paraffinic Distillate	64742-54-7	30.0 - 60.0	
Polyalphaolefin	Proprietary	15.0 - 40.0	

IV. First Aid Measures:

Emergency and First Aid Procedures:

MSDS - Material Safety Data Sheet
Product Name: SYNTHETIC POWER STEERING FLUID PROTECTANT

MSDS No.: M2704SPF

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.
Inhalation: Remove to fresh air. If breathing becomes difficult get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately.

Note to Physicians:

N/E

V. Fire Fighting Measures:

Suitable Extinguishing Media:

Water Fog, Foam, Carbon Dioxide, Dry Chemical

Unsuitable Extinguishing Media:

Do not use forced water stream as this could cause the fire to spread.

Products of Combustion:

Smoke, carbon oxides, traces of sulfur, phosphorus, and nitrogen oxides.

Protection of Firefighters:

Wear self-contained positive pressure breathing apparatus and protective clothes.

VI. Accidental Release Measures:

Personal Precautions:

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental Precautions:

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred. Run off to sewer may create fire or explosion hazard.

Methods for Containment:

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

Methods for Cleanup:

Using a scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid to recover material.

Other Information:

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occured.

VII. Handling and Storage:

Handling Precautions:

Handling: Use with adequate ventilation and proper protective equipment. Wash hand before eating. Keep away from children and animals.

Storage Precautions:

Keep container closed tightly when not in use. Store in a cool place below 120 F. Do not expose to strong oxidizing agents.
.

VIII. Exposure Controls/Personal Protection:

Chemical Name	OSHA PEL	ACGIH TLV	Other Limits
Polyalphaolefin	5 mg/m3	N/E	Not Available
Hydrotreated Heavy Paraffinic Distillate	5 mg/m3	5 mg/m3	Not Available
Amines, Soya alkyl, ethoxylated	5 mg/m3	Not Available	Not Available
Alky Acid Phosphate	N/E	N/E	Not Available
Antiwear Additive	5 mg/m3	Not Available	Not Available
Benzotriazole derivative	5 mg/m3	Not Available	Not Available

MSDS - Material Safety Data Sheet
Product Name: SYNTHETIC POWER STEERING FLUID PROTECTANT

MSDS No.: M2704SPF

Engineering Controls:

This product does not contain any components which have recognized exposure limits. However a TLV of 5.0 mg/cubic meter is recommended for oil mist. Maintain adequate ventilation. Avoid breathing vapors or mist. In restricted areas, use approved chemical/mechanical filters designed to remove a combination of particles and vapor. In confined areas, use approved air line type respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above recommended TLV limits.

Personal Protective Equipment:

For prolonged exposure wear protective safety glasses, gloves, and apron.

IX. Physical and Chemical Properties:

Boiling Point: N/D

Boiling Range: N/D

Solubility In Water: Negligible, > 0.1%

Flash Point: >300°F

Odor Threshold: N/A

Vapor Density (AIR = 1): > 5

pH Range: N/A

Decomposition Temp: N/D

Lower Explosive Limit: N/D

Specific Gravity (H20 = 1): 0.87

Other Information: Viscosity @ 100°C = 6.83 cSt

Melting Point: N/A

Freezing Point: N/A

Evaporation Rate (Butyl Acetate = 1): N/A

Flash Point Method: TCC

Appearance and Odor: Light to medium amber with slight petroleum odor

Vapor Pressure (mm Hg.): > 0.01 mm Hg @ 20°C

Partition Coefficient: N/A

Auto-Ignition Temp: N/D

Upper Explosive Limit: N/D

X. Stability and Reactivity:

Stability:

Stable

Conditions to Avoid:

See Incompatible Materials below

Incompatible Materials:

Strong oxidizers.

Hazardous Decomposition Products:

Fumes, smoke, carbon oxides .

Possibility of Hazardous Reactions:

Will not occur

XI. Toxicological Information:

N/D

XII. Ecological Information:

N/D

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in a recycling centers when empty. Before offering for recycling, empty the bottle by using the product according to the label. If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations

MSDS - Material Safety Data Sheet
Product Name: SYNTHETIC POWER STEERING FLUID PROTECTANT

MSDS No.: M2704SPF

XIV. Transport Information:

Shipping Name: Not Available

DOT Hazard Class: Not Available

DOT Subsidiary Hazard Class: Not Available

UN/NA#: Not Available

Packing Group: Not Available

Transportation Information:

DOT Shipping Name: Not DOT regulated.
DOT Hazard Class: None

XV. Regulatory Information:

SARA 313 Reportable Chemicals.
None

USA TSCA: All components of this material are either exempt or listed on the US TSCA Inventory.

State RTK Chemicals:
None

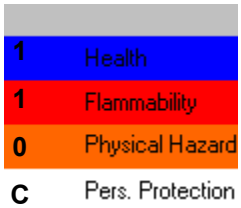
XVI. Other Information:

Chemical State: [X] Liquid [ ] Gas [ ] Solid

Chemical Type: [ ] Pure [X] Mixture

Hazard Category:

[X] Acute [ ] Chronic [ ] Fire [ ] Pressure [ ] Reactive



Additional Manufacturer Warnings:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

Additional Product Information:

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

There was a PDF conversion failure for -

Product Name: Tap Magic PROTAP
CAS Number:
Manufacturer: Steco Corporation
SDS Date: 12/31/2014

To complete your binder, please link a different SDS for this product or print the SDS manually from

http://www.msdsonline.com/Legacy/Partners/Show-Document/Default.aspx?ShowId=fDV9lcLf8ls%3d

and add to your binder. We are currently researching solutions to this issue. Thank you for your patience.

SAFETY DATA SHEET

1. Identification

Product identifier **Technician Grade Di-Electric Grease**

Other means of identification

Product code 05105

Recommended use Lubricates, protects and insulates electrical connections

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards Gases under pressure — Compressed gas

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

Disposal Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polydimethylsiloxane		63148-62-9	70 - 80
Amorphous silica		7631-86-9	5 - 10

Chemical name	Common name and synonyms	CAS number	%
Propylene glycol		57-55-6	5 - 10
Nitrogen		7727-37-9	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion If swallowed, do NOT induce vomiting. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water spray. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

General fire hazards Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Wipe up with absorbent material (e.g. cloth, fleece, vermiculite). Sweep up or vacuum up spillage and collect in suitable container for disposal. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Environmental precautions Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in tightly closed original container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Amorphous silica (CAS 7631-86-9)	TWA	0.8 mg/m3 20 mppcf

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Amorphous silica (CAS 7631-86-9)	TWA	6 mg/m3

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Propylene glycol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines Occupational Exposure Limits are not relevant to the current physical form of the product.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Gel.

Color Off-white.

Odor Mild.

Odor threshold Not available.

pH Neutral.

Melting point/freezing point -74.2 °F (-59 °C) estimated

Initial boiling point and boiling range 600 °F (315.6 °C) estimated

Flash point > 500 °F (> 260 °C) Tag Closed Cup

Evaporation rate Slow.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	2.6 % estimated
Flammability limit - upper (%)	12.6 % estimated
Vapor pressure	55354.1 hPa estimated
Vapor density	> 5 (air = 1)
Relative density	1.01 estimated
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	600 °F (315.6 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids.
Hazardous decomposition products	Carbon oxides. Silicone oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Viscous nature may block breathing passages if inhaled.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause gastrointestinal irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
Technician Grade Di-Electric Grease		
Acute		
Dermal		
LD50	Rabbit	2632 mg/kg estimated
Oral		
LD50	Rat	12699 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Amorphous silica (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not expected to be an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
Technician Grade Di-Electric Grease			
Aquatic			
Fish	LC50	Fish	18.8349 mg/l, 96 hours estimated

Components		Species	Test Results
Polydimethylsiloxane (CAS 63148-62-9)			
Aquatic			
Fish	LC50	Channel catfish (Ictalurus punctatus)	2.36 - 4.15 mg/l, 96 hours
Propylene glycol (CAS 57-55-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	710 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Nitrogen	0.67
Propylene glycol	-0.92

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Empty container can be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1950

UN proper shipping name Aerosols, non-flammable, Limited Quantity

Transport hazard class(es)

Class 2.2

Subsidiary risk -

Label(s) 2.2

Packing group Not applicable.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions	Not available.
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	2L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Nitrogen (CAS 7727-37-9)
Propylene glycol (CAS 57-55-6)

US. Massachusetts RTK - Substance List

Amorphous silica (CAS 7631-86-9)
Nitrogen (CAS 7727-37-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Amorphous silica (CAS 7631-86-9)
Nitrogen (CAS 7727-37-9)
Propylene glycol (CAS 57-55-6)

US. Rhode Island RTK

None.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	0 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-21-2015

Prepared by	Allison Cho
Version #	01
Further information	CRC # 113
HMIS® ratings	Health: 0 Flammability: 1 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 0 Flammability: 1 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

7220

Section 1. Identification

Product name : TECnique™ Self Etching Primer

Product code : 7220

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : MARTIN SENOUR PAINTS
4440 Warrensville Center Road
Warrensville Hts., OH 44128-2837

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 526-6704

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 14%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	34	67-64-1
Propane	11.22	74-98-6
Butane	10.78	106-97-8
Toluene	8.47	108-88-3
Methyl Isobutyl Ketone	7	108-10-1
Isobutyl Acetate	5.22	110-19-0
Titanium Dioxide	2.75	13463-67-7
Methyl Ethyl Ketone	2.47	78-93-3
n-Butyl Acetate	1.32	123-86-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.

Isobutyl Acetate	**ACGIH TLV (United States, 3/2015).** TWA: 150 ppm 8 hours. TWA: 713 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 700 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 700 mg/m³ 8 hours.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
n-Butyl Acetate	**ACGIH TLV (United States, 3/2015).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	Exposure limits
Acetone	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1200 mg/m³ 8 hours. 15 min OEL: 1800 mg/m³ 15 minutes. 8 hrs OEL: 500 ppm 8 hours. 15 min OEL: 750 ppm 15 minutes. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 500 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 500 ppm 8 hours. TWAEV: 1190 mg/m³ 8 hours. STEV: 1000 ppm 15 minutes. STEV: 2380 mg/m³ 15 minutes.

	CA Saskatchewan Provincial (Canada, 7/2013). STEL: 750 ppm 15 minutes. TWA: 500 ppm 8 hours.
Propane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 1000 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1800 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 1000 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Butane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 600 ppm 8 hours. STEL: 750 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 800 ppm 8 hours. TWAEV: 1900 mg/m³ 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 800 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
Toluene	**CA Alberta Provincial (Canada, 4/2009). Absorbed through skin.** 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 20 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014). Absorbed through skin.** TWAEV: 50 ppm 8 hours. TWAEV: 188 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin.** STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Isobutyl Acetate	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 150 ppm 8 hours. 8 hrs OEL: 713 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 150 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).**

	TWA: 150 ppm 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 150 ppm 8 hours. TWAEV: 713 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 188 ppm 15 minutes. TWA: 150 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.79

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.2 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Isobutyl Acetate	LD50 Dermal	Rabbit	>17400 mg/kg	-
	LD50 Oral	Rat	13400 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Isobutyl Acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-

	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Isobutyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined

Section 11. Toxicological information

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4724.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
n-Butyl Acetate	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
n-Butyl Acetate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 14. Transport information

Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2).	-	-	**Emergency schedules (EmS)** F-D, S-U
	ERG No. 126	**ERG No.** 126	**ERG No.** 126		

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

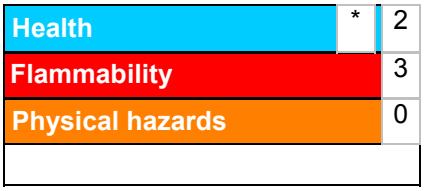
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification **Justification**

Section 16. Other information

FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 6/4/2016

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Version : 3

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

7220

Section 1. Identification

Product name : TECnique™ Self Etching Primer

Product code : 7220

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : MARTIN SENOUR PAINTS
4440 Warrensville Center Road
Warrensville Hts., OH 44128-2837

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 526-6704

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 14%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - ≤50	67-64-1
Propane	≥10 - ≤25	74-98-6
Butane	≥10 - ≤25	106-97-8
Toluene	≤10	108-88-3
Methyl Isobutyl Ketone	≤10	108-10-1
Isobutyl Acetate	≤10	110-19-0
Titanium Dioxide	≤3	13463-67-7
Methyl Ethyl Ketone	≤3	78-93-3
n-Butyl Acetate	≤3	123-86-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

Isobutyl Acetate	**ACGIH TLV (United States, 3/2015).** TWA: 150 ppm 8 hours. TWA: 713 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 700 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 700 mg/m³ 8 hours.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
n-Butyl Acetate	**ACGIH TLV (United States, 3/2015).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.79

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Section 9. Physical and chemical properties

Heat of combustion : 27.2 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Isobutyl Acetate	LD50 Dermal	Rabbit	>17400 mg/kg	-
	LD50 Oral	Rat	13400 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
n-Butyl Acetate	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-

	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Isobutyl Acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs

Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Isobutyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4724.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 7200000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
n-Butyl Acetate	Acute LC50 32000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
n-Butyl Acetate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Titanium Dioxide	-	352	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** Not Applicable **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** F-D, S-U **Special provisions** LIMITED QUANTITY

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

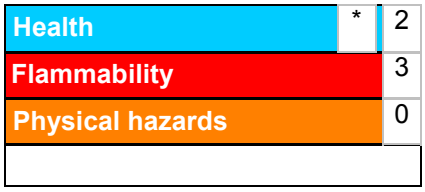
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 4/19/2016

Date of issue/Date of revision : 4/19/2016

Date of previous issue : 3/27/2016

Version : 2.02

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET

7220

Section 1. Identification

Product name : TECnique™ Self Etching Primer

Product code : 7220

Other means of identification : Not available.

Product type : Aerosol.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Manufacturer : MARTIN SENOUR PAINTS
4440 Warrensville Center Road
Warrensville Hts., OH 44128-2837

Emergency telephone number of the company : (216) 566-2917

Product Information Telephone Number : (800) 526-6704

Regulatory Information Telephone Number : (216) 566-2902

Transportation Emergency Telephone Number : (800) 424-9300

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 17.5%

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging the unborn child.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.

Disposal Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Please refer to the SDS for additional information. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Acetone	≥25 - <50	67-64-1
Propane	≥10 - <25	74-98-6
Butane	≥10 - <25	106-97-8
Toluene	≥5 - <10	108-88-3
Methyl Isobutyl Ketone	≥5 - <10	108-10-1
Isobutyl Acetate	≥5 - <10	110-19-0
Titanium Dioxide	≥1 - <3	13463-67-7
Methyl Ethyl Ketone	≥2 - <3	78-93-3
n-Butyl Acetate	≥1 - <1.6	123-86-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetone	**ACGIH TLV (United States, 3/2015).** TWA: 250 ppm 8 hours. STEL: 500 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 250 ppm 10 hours. TWA: 590 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 2400 mg/m³ 8 hours.
Propane	**NIOSH REL (United States, 10/2013).** TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.
Butane	**NIOSH REL (United States, 10/2013).** TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2015).** STEL: 1000 ppm 15 minutes.
Toluene	**OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes. **NIOSH REL (United States, 10/2013).** TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Methyl Isobutyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 50 ppm 10 hours. TWA: 205 mg/m³ 10 hours. STEL: 75 ppm 15 minutes. STEL: 300 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 410 mg/m³ 8 hours.
Isobutyl Acetate	**ACGIH TLV (United States, 3/2015).**

	TWA: 150 ppm 8 hours. TWA: 713 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 700 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 700 mg/m³ 8 hours.
Titanium Dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
Methyl Ethyl Ketone	**ACGIH TLV (United States, 3/2015).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 200 ppm 10 hours. TWA: 590 mg/m³ 10 hours. STEL: 300 ppm 15 minutes. STEL: 885 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 200 ppm 8 hours. TWA: 590 mg/m³ 8 hours.
n-Butyl Acetate	**ACGIH TLV (United States, 3/2015).** TWA: 150 ppm 8 hours. STEL: 200 ppm 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 150 ppm 10 hours. TWA: 710 mg/m³ 10 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 7

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]

Evaporation rate : 5.6 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 12.8%

Vapor pressure : 13.5 kPa (101.325 mm Hg) [at 20°C]

Vapor density : 1.55 [Air = 1]

Relative density : 0.79

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): <0.205 cm^2/s (<20.5 cSt)
Kinematic (40°C (104°F)): <0.205 cm^2/s (<20.5 cSt)

Molecular weight : Not applicable.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 27.2 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Methyl Isobutyl Ketone	LD50 Oral	Rat	2080 mg/kg	-
Isobutyl Acetate	LD50 Dermal	Rabbit	>17400 mg/kg	-
	LD50 Oral	Rat	13400 mg/kg	-
Methyl Ethyl Ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
n-Butyl Acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20	-

				milligrams	
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
Methyl Isobutyl Ketone	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Isobutyl Acetate	Eyes - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
Methyl Ethyl Ketone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Methyl Isobutyl Ketone	-	2B	-
Titanium Dioxide	-	2B	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Propane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Butane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Toluene	Category 3	Not applicable.	Respiratory tract

Methyl Isobutyl Ketone	Category 3	Not applicable.	irritation and Narcotic effects Respiratory tract irritation and Narcotic effects
Methyl Ethyl Ketone	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Acetone	Category 2	Not determined	Not determined
Propane	Category 2	Not determined	Not determined
Butane	Category 2	Not determined	Not determined
Toluene	Category 2	Not determined	Not determined
Methyl Isobutyl Ketone	Category 2	Not determined	Not determined
Methyl Ethyl Ketone	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Propane	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Inhalation (gases)	4529.6 mg/kg 24312 ppm

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days
Toluene	Acute EC50 12500 µg/l Fresh water	Algae - Pseudokirchneriella	72 hours

Section 12. Ecological information

		subcapitata	
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Methyl Isobutyl Ketone	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Methyl Ethyl Ketone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
n-Butyl Acetate	Acute LC50 32000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily
Toluene	-	-	Readily
Methyl Isobutyl Ketone	-	-	Readily
Methyl Ethyl Ketone	-	-	Readily
n-Butyl Acetate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Toluene	-	90	low
Titanium Dioxide	-	352	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	**Special provisions** LIMITED QUANTITY **ERG No.** 126	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 13-2.17 (Class 2). **Special provisions** LIMITED QUANTITY **ERG No.** 126	**Special provisions** (ERG#126) **ERG No.** 126	**Special provisions** LIMITED QUANTITY	**Emergency schedules (EmS)** LIMITED QUANTITY, F-D, S-U

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Proper shipping name : Not available.

Ship type : Not available.

Pollution category : Not available.

Section 15. Regulatory information

SARA 313

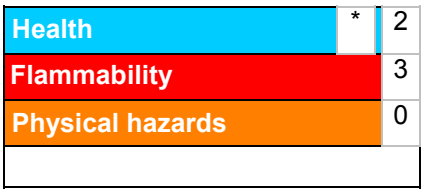
SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Procedure used to derive the classification

Classification	Justification
Flam. Aerosol 1, H222	On basis of test data
Press. Gas Comp. Gas, H280	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Carc. 2, H351	Calculation method
Repr. 2, H361 (Unborn child)	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Asp. Tox. 1, H304	Calculation method

History

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Version : 1.04

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

Section 16. Other information

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by Sherwin-Williams, including but not limited to the incorporation of non Sherwin-Williams products or the use or addition of products in proportions not specified by Sherwin-Williams. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

MATERIAL SAFETY DATA SHEET

7220
02 00

DATE OF PREPARATION
Aug 18, 2015

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
7220
PRODUCT NAME
TECnique™ Self Etching Primer
MANUFACTURER'S NAME
MARTIN SENOUR PAINTS
4440 Warrensville Center Road
Warrensville Hts., OH 44128-2837

Telephone Numbers and Websites

Product Information	(800) 526-6704 www.martinsenour-autopaint.com
Regulatory Information	(216) 566-2902
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
11	74-98-6	**Propane**		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	1000 PPM	
11	106-97-8	**Butane**		
		ACGIH TLV	1000 PPM	760 mm
		OSHA PEL	800 PPM	
8	108-88-3	**Toluene**		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
34	67-64-1	**Acetone**		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	
2	78-93-3	**Methyl Ethyl Ketone**		
		ACGIH TLV	200 PPM	90.6 mm
		ACGIH TLV	300 PPM STEL	
		OSHA PEL	200 PPM	
		OSHA PEL	300 PPM STEL	
7	108-10-1	**Methyl Isobutyl Ketone**		
		ACGIH TLV	50 PPM	16 mm
		ACGIH TLV	75 PPM STEL	
		OSHA PEL	50 PPM	
		OSHA PEL	75 PPM STEL	
2	763-69-9	**Ethyl 3-Ethoxypropionate**		
		ACGIH TLV	Not Available	1.11 mm
		OSHA PEL	Not Available	
1	123-86-4	**n-Butyl Acetate**		
		ACGIH TLV	150 PPM	10 mm
		ACGIH TLV	200 PPM STEL	
		OSHA PEL	150 PPM	
		OSHA PEL	200 PPM STEL	
5	110-19-0	**Isobutyl Acetate**		
		ACGIH TLV	150 PPM	12.5 mm
		OSHA PEL	150 PPM	
6	14807-96-6	**Talc**		
		ACGIH TLV	2 mg/m3 as Resp. Dust	
		OSHA PEL	2 mg/m3 as Resp. Dust	
3	13463-67-7	**Titanium Dioxide**		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	10 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	3
Reactivity	0

EFFECTS OF OVEREXPOSURE

EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the hematopoietic (blood-forming) system
- the cardiovascular system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Propellant < 0 °F	1.0	12.8

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY
Not Available
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	6.65 lb/gal	796 g/l
SPECIFIC GRAVITY	0.80	
BOILING POINT	<0 - 342 °F	<-18 - 172 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	92%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	> 2.0, < 11.5	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

Volatile Weight 49.07% Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide , Hydrogen Chloride

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

IARC's Monograph No. 93 reports there is sufficient evidence of carcinogenicity in experimental rats exposed to titanium dioxide but inadequate evidence for carcinogenicity in humans and has assigned a Group 2B rating. In addition, the IARC summary concludes, "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium is bound to other materials, such as paint."

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	**Propane**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
106-97-8	**Butane**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
108-88-3	**Toluene**			
		LC50 RAT	4HR	4000 ppm
		LD50 RAT		5000 mg/kg
67-64-1	**Acetone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		5800 mg/kg
78-93-3	**Methyl Ethyl Ketone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		2740 mg/kg
108-10-1	**Methyl Isobutyl Ketone**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		2080 mg/kg
763-69-9	**Ethyl 3-Ethoxypropionate**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
123-86-4	**n-Butyl Acetate**			
		LC50 RAT	4HR	2000 ppm
		LD50 RAT		13100 mg/kg
110-19-0	**Isobutyl Acetate**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		13400 mg/kg
14807-96-6	**Talc**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
13463-67-7	**Titanium Dioxide**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, EmS F-D, S-U

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	8	
108-10-1	Methyl Isobutyl Ketone	7	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

[According to OSHA Hazard Communication Standard (HCS) 29 CFR 1910.1200]

SECTION 1. IDENTIFICATION

PRODUCT INFORMATION

PRODUCT NUMBER : 12-10453UPD
TRADEMARK : THERMALB UP HOPPER GRAY
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY : WATER EMULSION AIR DRY COATING
DESCRIPTION : Non-Flammable Water Emulsion Coatings

APPLICATION : WATER SOLUBLE PAINT USED IN THE PROCESS OF STEEL STRUCTURE PAINTING. FOR PROFESSIONAL USE.

SUPPLIER INFORMATION

MANUFACTURER : Williams-Hayward Protective Coatings, Inc.
Address : 7425 West 59th Street
Summit IL 60501 USA
Telephone : 708-458-0015
Emergency Phone : 800-424-9300 (CHEMTREC)

SECTION 2. HAZARD(S) IDENTIFICATION

PRODUCT DEFINITION: Mixture

GHS CLASSIFICATION

Acute Toxicity (oral, dermal, inhalation), category 4
Skin Irritation, category 2
Eye Irritation, category 2
Skin Sensitization, category 1

LABEL ELEMENTS

HAZARD PICTOGRAMS:

SIGNAL WORD : WARNING

HAZARD STATEMENTS: CONTAINS COMPOUNDS HARMFUL IF SWALLOWED

PRECAUTIONARY STATEMENTS:
FOR PROFESSIONAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SECTION 2. HAZARD(S) IDENTIFICATION

PREVENTION : COMBUSTIBLE. Keep away from heat and open flame.
Avoid prolonged contact with skin and breathing of vapor or spray mist.
Use with adequate ventilation.
RESPONSE : Wash thoroughly after handling.
Close container after each use.
DISPOSAL : Dispose of in accordance with all local, regional, national, and international regulations.
HAZARDOUS INGREDIENTS:
Not applicable

SPECIAL PACKAGING REQUIREMENTS
CONTAINERS TO BE FITTED WITH CHILD-RESISTANT FASTENINGS:
Not applicable
TACTILE WARNING OF DANGER:
Not applicable

OTHER HAZARDS

THREAT TO HUMANS
Adherence to the general work hygiene and safety rules guarantees that the product does not create any threat to human life and health.

THREAT TO THE NATURAL ENVIRONMENT
See Section 12 for environmental threats

OTHER THREATS
Non existent

SECTION 3. COMPOSITION, INFORMATION ON INGREDIENTS

MIXTURE

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT
WATER (NON-HAZARDOUS)	7732-18-5	31-60
ESTER-ALCOHOL	25265-77-4	1-15

SECTION 4. FIRST AID MEASURES

GENERAL NOTES
All of the safety notes and recommendations listed on product label should be adhered to. The effects of exposure are listed in section 11 of this document.

FIRST-AID INSTRUCTIONS

SKIN CONTACT
Wash with soap and water. An emollient cream or lotion is beneficial. Remove clothing which has come in direct contact with the product. If irritation occurs, call a physician.

EYE CONTACT
Wash with plenty of water for 10 to 15 minutes. Protect the eye which has not been subject to irritation, take out contact lenses. If eye irritation occurs, call an optician.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.

INGESTION
DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN. Wash mouth with water. Drink water. Never apply anything to the mouth of an unconscious person.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND CHRONIC

ACUTE

SKIN CONTACT	: No known significant effects or critical hazards
EYE CONTACT	: No known significant effects or critical hazards
INHALATION	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
INGESTION	: No known significant effects or critical hazards

CHRONIC

SKIN CONTACT	: Prolonged contact may cause irritation
EYE CONTACT	: No specific data
INHALATION	: No specific data
INGESTION	: No specific data

RECOMMENDATIONS FOR IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NOTES TO PHYSICIAN:
If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SPECIFIC TREATMENTS: No specific treatment

SECTION 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

EXTINGUISHING MEDIA:
Fire powder, carbon dioxide, sprayed water stream

IMPROPER MEANS OF EXTINGUISHING:
Compact water stream - the risk of spreading fire.

SPECIFIC HAZARDS DURING FIRE

THE DANGEROUS PRODUCTS OF THE BURNING PROCESS:
The occurrence of fire may produce dangerous gases: sulphur oxides, nitrogen oxides as well as low particle mass carbohydrates. In the case of stove systems formaldehyde and ammonium may also be produced. Refrain from inhaling the combustion products as they may impose a threat to human health.

ADDITIONAL INFORMATION:
The product is not flammable. Acrylic emulsions are non-flammable substances. They may splatter if temperature exceeds 100C. Dried polymer films are capable of burning. All of the containers which are endangered by fire should be cooled within the safe distances with the well distributed stream of water.

ADVICE FOR FIREFIGHTERS

PARTICULAR EQUIPMENT IN THE PROCESS OF FIRE FIGHTING:
Means of protection are standard in the case of the occurrence of fire. Do not remain in the area endangered by fire spreading without the proper chemical protective clothing as well as without the breathing apparatus equipped with an independent air system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

INDIVIDUAL MEANS OF PROTECTION:
The general principles of hygiene and safety should be adhered to. Block the passer-by access. Ensure proper ventilation. Avoid direct contact with the product.
Do not breathe in vapors.

ENVIRONMENTAL PRECAUTIONS

THE INDISPENSABLE MEANS OF NATURAL ENVIRONMENT PROTECTION
Do not allow for the product to enter the ground and underground water sewerage installation system. If a large amount is spilled in the natural environment, take the steps necessary to limit the spreading within the natural environment.
Inform proper rescue teams.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Emulsions can be coagulated by stepwise addition of lime and ferric sulphate until all of the water has been completely absorbed. The collected material should be treated as waste. Proceed in accordance with local, state, and federal regulations. Clean the polluted location.

ATTENTION! Floor may be slippery. Care should be exercised to avoid falls.

REFERENCE TO OTHER SECTIONS

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

SUBSTANCE HANDLING:
Use the product in accordance with the safety and hygiene principles, only in well-ventilated rooms. In each case of exposure, before the break as well as after the completion of work, carefully wash hands with soap and water. Do not inhale the product. Apply means of personal protection, which are in compliance with Section 8 of this document.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORAGE:
Store in original, tight containers only, in dry and well-ventilated locations. Recommended storage temperature 4-37C. Do not allow the substance to freeze. Store only inside buildings.

SECTION 7. HANDLING AND STORAGE

SPECIFIC END USE(S)

SPECIFIC APPLICATIONS:
Acrylic latex emulsion, single ingredient, water soluble paint. To be applied directly upon metal or with the application of ground preparation coat. For professional use only.

MISCELLANEOUS:
Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

INGREDIENT DESCRIPTION	CAS NUMBER	EXPOSURE LIMITS
ESTER-ALCOHOL	25265-77-4	ACGIH TLV: 835.00 UG/M3 OSHA PEL: NR

EXPOSURE CONTROLS

EXPOSURE CONTROL WITHIN THE WORK PLACE
Adhere to the general principles of hygiene and safety. Do not eat, drink, or smoke tobacco during the execution of work. Before the break and after completion of work. Carefully wash hands. Ensure that the workplace is ventilated or the whole room is ventilated in order for the concentration of the harmful agent within the air is below the allowable concentration limit. Avoid eye and skin contact.

ATTENTION! Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

PRECAUTIONS:
Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

SKIN PROTECTION:
Use protective, impermeable gloves. The choice of proper gloves does not only depend on the material but also on other quality characteristics and is subject to change depending on the manufacturer. Gloves should be changed frequently and immediately replaced should any signs of wear, damage, or change of their looks (color, shape, flexibility) occur.

EYE PROTECTION:
Apply tight, protective goggles. Splash-proof safety goggles (ANSI Z87.1, 1968).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator (TC19C NIOSH/MSHA) is recommended.

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	200 TO 900 (deg F)	% VOLATILE (VOLUME):	64.14
	93 TO 482 (deg C)	% NVM (WEIGHT) :	41.74
VAPOR DENSITY:	HEAVIER THAN AIR	% NVM (VOLUME) :	35.86
EVAP RATE :	SLOWER THAN BUTYL ACETATE		
DENSITY :	9.13 (lb/gl)		
:	1094.01 (gr/l)		
APPEARANCE :	GRAY IN COLOR		
ODOR :	SLIGHT AMINE ODOR		
WATER SOLUBLE:	YES		

OTHER INFORMATION

SOLVENTS :	8.304 (lb/gl)	VOC (as shipped):	.57 (lb/gl)
:	994.81 (gr/l)	:	69.24 (gr/l)

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY
No specific test data related to reactivity available for this product or its ingredients

CHEMICAL STABILITY
Stable.

OTHER
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID
Non Applicable.

INCOMPATIBLE MATERIALS
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

SECTION 11. TOXICOLOGICAL INFORMATION

INGREDIENT DESCRIPTION	CAS NUMBER	TOXICOLOGICAL DATA
ESTER-ALCOHOL	25265-77-4	LC50: Inhalation, (RAT) 6H:>3.55mg/l LD50: Oral, (RAT), 6517 MG/KG LD50: (MALE MOUSE), 1600-3200 MG/KG

TARGET ORGANS:
eyes, skin, nose, respiratory system

EFFECTS OF OVEREXPOSURE:

INHALATION	Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect
EYE CONTACT	Slightly irritating to eyes.
SKIN CONTACT	Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY:
Dermal, Inhalation, Ingestion.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

ECO-TOXICITY:
This product contains chemicals which are harmful to fish.

MOBILITY IN SOIL

This product dissolves in water and spreads through the environment.

ADDITIONAL INFORMATION

Large product quantities should be protected against accessing surface waters, sewerage system and soil.

Ecotoxicological information on this product's components appear in this section when such data is available

2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE

ACUTE AQUATIC EFFECTS DATA:
96h LC50 (fathead minnow): 33 mg/l NOEC: 16 mg/l
96h LC50 (sideswimmer): > 95 mg/l (highest concentration tested)
48h EC50 (daphnid): 147.8 mg/l NOEC: 28.4 mg/l
96h LC50 (pill bug): > 95 mg/l (highest concentration tested)
96h LC50 (flatworm): 38 mg/l NOEC: 9.5 mg/l
96h LC50 (aquatic earthworm): 30.4 mg/l NOEC: 9.5 mg/l
96h LC50 (ramshorn snail): > 95 mg/l (highest concentration tested)
72h EC50 (Selenastrum capricornutum): 18.4 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

COMPOUND RECOMMENDATIONS:
This product is classified as a non-hazardous waste.

The waste product should be subject to recycling or should be removed within certified incineration facilities or waste recycling/processing plants, in accordance with the obligatory regulation. It should not be removed along with communal waste.The remnants should be stored in original containers. The waste code should be provided within the location of the waste processing.

RECOMMENDATIONS WITH REGARD TO THE PACKAGING:
Packaging, which may not be cleaned should be treated in the same manner as the product.

ENVIRONMENTAL PRECAUTIONS:
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

SECTION 14. TRANSPORT INFORMATION

The product is not classified as dangerous during land, sea, or air transport.

UN NUMBER
Not applicable

UN PROPER SHIPPING NAME
PAINT, NON-FLAMMABLE LIQUID

TRANSPORTATION HAZARD CLASS
Not applicable

PACKAGING GROUP
Not applicable

SPECIAL PRECAUTIONS FOR USER

TRANSPORT WITHIN USER'S PREMISES:
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15. REGULATORY INFORMATION

CHEMICAL SAFETY ASSESSMENT

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):

All components are either listed or are exempt from being listed on the EINECS chemical inventory

SECTION 16. OTHER INFORMATION

WORKSHOPS:
Prior to working with this product, the user should get acquainted with the health and safety regulations regarding chemical handling, and proper use in the workplace.

ADDITIONAL INFORMATION:
Product classification has been agreed based upon the actual concentration of each of the components as it presents real threats, which are imposed by this product. The real value of the concentrations of particular components always fits within the proper range. Therefore, for that reason final product classification may be different from the calculated classification based upon the general concentration values.

(NDS) Highest Allowable Concentration

HMIS RATING: H F R PP
2 0 0 J

MANUFACTURER'S NAME:
Williams-Hayward Protective Coatings, Inc
7425 West 59th Street
Summit, IL 60501

EMERGENCY TELEPHONE:
800-424-9300

INFORMATION TELEPHONE:
708-458-0015

EFFECTIVE DATE: 08/17/11

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER : 12-10453UPD
PRODUCT NAME : THERMALB UP HOPPER GRAY
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY: WATER EMULSION AIR DRY COATING

HMIS RATING: H F R PP
2 0 0 J

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT	ACGIH TLV	OSHA PEL AND OTHER EXPOSURE LIMITS
WATER (NON-HAZARDOUS)	7732-18-5	51.8	NR	NR
ESTER-ALCOHOL	25265-77-4	5.5	835.00 UG/M3	NR
LD50: (MALE MOUSE), 1600-3200 MG/KG				

RCRA TRACE ELEMENTS

SECTION III - PHYSICAL DATA

BOILING RANGE: 200 TO 999 (deg F)
93 TO 537 (deg C)
VAPOR DENSITY: HEAVIER THAN AIR
EVAP RATE : SLOWER THAN BUTYL ACETATE
DENSITY : 9.14 (lb/gl)
: 1.09 (kg/l)
SOLVENTS : 8.310 (lb/gl)
: .99 (kg/l)

% VOLATILE (VOLUME): 64.35
% NVM (WEIGHT) : 41.65
% NVM (VOLUME) : 35.64
VOC (less water): 1.38 (lb/gl)
: 165.80 (gr/l)
VOC (as shipped): .59 (lb/gl)
: 71.64 (gr/l)

APPEARANCE : GRAY IN COLOR
ODOR : SLIGHT AMINE ODOR
WATER SOLUBLE: YES

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: PAINT,NON FLAMMABLE LIQUID

FLASH POINT: NOT APPLICABLE LEL: N/A UEL: N/A

EXTINGUISHING MEDIA:
For dried film: Carbon Dioxide, dry chemical and water fog.

UNUSUAL FIRE AND EXPLOSION DATA:
Acrylic emulsions will not burn. They may splatter if temperature exceeds boiling point (212 degrees F, 100 degrees C). Dried polymer films are capable of burning.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
INHALATION: Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect
EYE CONTACT: Slightly irritating to eyes.
SKIN CONTACT: Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY: Dermal, Inhalation, Ingestion.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:
Allergy, Asthma, Bronchitis, Emphysema.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION	Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.
EYE CONTACT	Wash with plenty of water for 5 minutes.
SKIN CONTACT	Wash with soap and water. An emollient cream or lotion is beneficial.
INGESTION	DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN.

SECTION VI - REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

CONDITIONS TO AVOID: Non Applicable.

INCOMPATIBILITY (MATERIALS TO AVOID):
Avoid contact with strong oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Floor may be slippery. Care should be exercised to avoid falls.

NOTE: Emulsions can be coagulated by stepwise addition of lime and ferric sulfate to clear water end point.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state, and federal regulations.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator(TC19C NIOSH/MSHA) is recommended.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

PROTECTIVE GLOVES:
Usual hand protection for paint application

EYE PROTECTION:
Splash-proof safety goggles (ANSI Z87.1, 1968).

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Indoor:	YES	Refrigerated:	NO
Heated:	YES	Outdoor:	NO

Storage Temperature: Max. 100 F Min. 40 F
Max. 37 C Min. 4 C

OTHER PRECAUTIONS:
Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

MISCELLANEOUS:
Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION X - OTHER INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:
This product contains the following chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):
All components are either listed or are exempt from being listed on the EINECS chemical inventory

MANUFACTURER'S NAME:
Williams-Hayward Protective Coatings, Inc
7425 West 59th Street
Summit, IL 60501

EMERGENCY TELEPHONE:
800-424-9300

INFORMATION TELEPHONE:
708-458-0015

EFFECTIVE DATE: 05/17/11

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER : 12-12072ARI
PRODUCT NAME : THERMALBOND(ARI)413C GRAY
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY: WATER EMULSION AIR DRY COATING

HMIS RATING: H F R PP
2 0 0 J

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT	ACGIH TLV	OSHA PEL AND OTHER EXPOSURE LIMITS
WATER (NON-HAZARDOUS)	7732-18-5	53.0	NR	NR
ESTER-ALCOHOL	25265-77-4	5.8	835.00 UG/M3	NR
				LD50: (MALE MOUSE), 1600-3200 MG/KG

---------- RCRA TRACE ELEMENTS ----------

SECTION III - PHYSICAL DATA

BOILING RANGE: 200 TO 490 (deg F)
93 TO 254 (deg C)
VAPOR DENSITY: HEAVIER THAN AIR
EVAP RATE : SLOWER THAN BUTYL ACETATE
DENSITY : 8.86 (lb/gl)
: 1.06 (kg/l)
SOLVENTS : 8.307 (lb/gl)
: .99 (kg/l)

% VOLATILE (VOLUME): 64.17
% NVM (WEIGHT) : 40.04
% NVM (VOLUME) : 35.82
VOC (less water): 1.40 (lb/gl)
: 168.55 (gr/l)
VOC (as shipped): .61 (lb/gl)
: 73.43 (gr/l)

APPEARANCE : GRAY IN COLOR
ODOR : SLIGHT AMINE ODOR
WATER SOLUBLE: YES

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: PAINT,NON FLAMMABLE LIQUID

FLASH POINT: NOT APPLICABLE LEL: N/A UEL: N/A

EXTINGUISHING MEDIA:
For dried film: Carbon Dioxide, dry chemical and water fog.

UNUSUAL FIRE AND EXPLOSION DATA:
Acrylic emulsions will not burn. They may splatter if temperature exceeds boiling point (212 degrees F, 100 degrees C). Dried polymer films are capable of burning.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
INHALATION: Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect
EYE CONTACT: Slightly irritating to eyes.
SKIN CONTACT: Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY: Dermal, Inhalation, Ingestion.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:
Allergy, Asthma, Bronchitis, Emphysema.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION	Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.
EYE CONTACT	Wash with plenty of water for 5 minutes.
SKIN CONTACT	Wash with soap and water. An emollient cream or lotion is beneficial.
INGESTION	DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN.

SECTION VI - REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

CONDITIONS TO AVOID: Non Applicable.

INCOMPATIBILITY (MATERIALS TO AVOID):
Avoid contact with strong oxidizing agents.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Floor may be slippery. Care should be exercised to avoid falls.

NOTE: Emulsions can be coagulated by stepwise addition of lime and ferric sulfate to clear water end point.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state, and federal regulations.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator(TC19C NIOSH/MSHA) is recommended.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

PROTECTIVE GLOVES:
Usual hand protection for paint application

EYE PROTECTION:
Splash-proof safety goggles (ANSI Z87.1, 1968).

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Indoor:	YES	Refrigerated:	NO
Heated:	YES	Outdoor:	NO

Storage Temperature: Max. 100 F Min. 40 F
Max. 37 C Min. 4 C

OTHER PRECAUTIONS:
Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

MISCELLANEOUS:
Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION X - OTHER INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:
This product contains the following chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):
All components are either listed or are exempt from being listed on the EINECS chemical inventory

[According to OSHA Hazard Communication Standard (HCS) 29 CFR 1910.1200]

SECTION 1. IDENTIFICATION

PRODUCT INFORMATION

PRODUCT NUMBER : 12-11601NVNS
TRADEMARK : THRMLBD USL GRAY NON-SKID
CHEMICAL NAME : ORGANIC COATING
CHEMICAL FAMILY : WATER EMULSION AIR DRY COATING
DESCRIPTION : Non-Flammable Water Emulsion Coatings

APPLICATION : WATER SOLUBLE PAINT USED IN THE PROCESS OF STEEL STRUCTURE PAINTING. FOR PROFESSIONAL USE.

SUPPLIER INFORMATION

MANUFACTURER : Williams-Hayward Protective Coatings, Inc.
Address : 7425 West 59th Street
Summit IL 60501 USA
Telephone : 708-458-0015
Emergency Phone : 800-424-9300 (CHEMTREC)

SECTION 2. HAZARD(S) IDENTIFICATION

PRODUCT DEFINITION: Mixture

GHS CLASSIFICATION
Acute Toxicity (oral, dermal, inhalation), category 4
Skin Irritation, category 2
Eye Irritation, category 2
Skin Sensitization, category 1

LABEL ELEMENTS
HAZARD PICTOGRAMS:

SIGNAL WORD : WARNING

HAZARD STATEMENTS: CONTAINS COMPOUNDS HARMFUL IF SWALLOWED

PRECAUTIONARY STATEMENTS:
FOR PROFESSIONAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SECTION 2. HAZARD(S) IDENTIFICATION

PREVENTION : COMBUSTIBLE. Keep away from heat and open flame.
Avoid prolonged contact with skin and breathing of vapor or spray mist.
Use with adequate ventilation.
RESPONSE : Wash thoroughly after handling.
Close container after each use.
DISPOSAL : Dispose of in accordance with all local, regional, national, and international regulations.
HAZARDOUS INGREDIENTS:
Not applicable

SPECIAL PACKAGING REQUIREMENTS
CONTAINERS TO BE FITTED WITH CHILD-RESISTANT FASTENINGS:
Not applicable
TACTILE WARNING OF DANGER:
Not applicable

OTHER HAZARDS

THREAT TO HUMANS
Adherence to the general work hygiene and safety rules guarantees that the product does not create any threat to human life and health.

THREAT TO THE NATURAL ENVIRONMENT
See Section 12 for environmental threats

OTHER THREATS
Non existent

SECTION 3. COMPOSITION, INFORMATION ON INGREDIENTS

MIXTURE

INGREDIENT DESCRIPTION	CAS NUMBER	PERCENT BY WGT
WATER (NON-HAZARDOUS)	7732-18-5	27-29

SECTION 4. FIRST AID MEASURES

GENERAL NOTES
All of the safety notes and recommendations listed on product label should be adhered to. The effects of exposure are listed in section 11 of this document.

FIRST-AID INSTRUCTIONS

SKIN CONTACT
Wash with soap and water. An emollient cream or lotion is beneficial. Remove clothing which has come in direct contact with the product. If irritation occurs, call a physician.

EYE CONTACT
Wash with plenty of water for 10 to 15 minutes. Protect the eye which has not been subject to irritation, take out contact lenses. If eye irritation occurs, call an optician.

SECTION 4. FIRST AID MEASURES

INHALATION
Remove to fresh air. If not breathing, give artificial respiration. Have a trained person administer oxygen. CALL A PHYSICIAN.

INGESTION
DO NOT SWALLOW. If swallowed, do not induce vomiting. CALL A PHYSICIAN. Wash mouth with water. Drink water. Never apply anything to the mouth of an unconscious person.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND CHRONIC

ACUTE

SKIN CONTACT	: No known significant effects or critical hazards
EYE CONTACT	: No known significant effects or critical hazards
INHALATION	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
INGESTION	: No known significant effects or critical hazards

CHRONIC

SKIN CONTACT	: Prolonged contact may cause irritation
EYE CONTACT	: No specific data
INHALATION	: No specific data
INGESTION	: No specific data

RECOMMENDATIONS FOR IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NOTES TO PHYSICIAN:
If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SPECIFIC TREATMENTS: No specific treatment

SECTION 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

EXTINGUISHING MEDIA:
Fire powder, carbon dioxide, sprayed water stream

IMPROPER MEANS OF EXTINGUISHING:
Compact water stream - the risk of spreading fire.

SPECIFIC HAZARDS DURING FIRE

THE DANGEROUS PRODUCTS OF THE BURNING PROCESS:
The occurrence of fire may produce dangerous gases: sulphur oxides, nitrogen oxides as well as low particle mass carbohydrates. In the case of stove systems formaldehyde and ammonium may also be produced. Refrain from inhaling the combustion products as they may impose a threat to human health.

ADDITIONAL INFORMATION:
The product is not flammable. Acrylic emulsions are non-flammable substances. They may splatter if temperature exceeds 100C. Dried polymer films are capable of burning. All of the containers which are endangered by fire should be cooled within the safe distances with the well distributed stream of water.

ADVICE FOR FIREFIGHTERS

PARTICULAR EQUIPMENT IN THE PROCESS OF FIRE FIGHTING:
Means of protection are standard in the case of the occurrence of fire. Do not remain in the area endangered by fire spreading without the proper chemical protective clothing as well as without the breathing apparatus equipped with an independent air system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

INDIVIDUAL MEANS OF PROTECTION:
The general principles of hygiene and safety should be adhered to. Block the passer-by access. Ensure proper ventilation. Avoid direct contact with the product.
Do not breathe in vapors.

ENVIRONMENTAL PRECAUTIONS

THE INDISPENSABLE MEANS OF NATURAL ENVIRONMENT PROTECTION
Do not allow for the product to enter the ground and underground water sewerage installation system. If a large amount is spilled in the natural environment, take the steps necessary to limit the spreading within the natural environment.
Inform proper rescue teams.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Keep unnecessary people away. Dike and contain spill with inert material (dry sand, fuller's earth, etc) and transfer the liquid to containers for recovery or proper disposal. Emulsions can be coagulated by stepwise addition of lime and ferric sulphate until all of the water has been completely absorbed. The collected material should be treated as waste. Proceed in accordance with local, state, and federal regulations. Clean the polluted location.

ATTENTION! Floor may be slippery. Care should be exercised to avoid falls.

REFERENCE TO OTHER SECTIONS

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

SUBSTANCE HANDLING:
Use the product in accordance with the safety and hygiene principles, only in well-ventilated rooms. In each case of exposure, before the break as well as after the completion of work, carefully wash hands with soap and water. Do not inhale the product. Apply means of personal protection, which are in compliance with Section 8 of this document.

VENTILATION:
Mechanical Local exhaust at point of contaminant (vapor, mist, or dust) release.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORAGE:
Store in original, tight containers only, in dry and well-ventilated locations. Recommended storage temperature 4-37C. Do not allow the substance to freeze. Store only inside buildings.

SECTION 7. HANDLING AND STORAGE

SPECIFIC END USE(S)

SPECIFIC APPLICATIONS:
Acrylic latex emulsion, single ingredient, water soluble paint. To be applied directly upon metal or with the application of ground preparation coat. For professional use only.

MISCELLANEOUS:
Precautionary Labeling: KEEP FROM FREEZING
PRODUCT STABILITY MAY BE AFFECTED

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

EXPOSURE CONTROLS

EXPOSURE CONTROL WITHIN THE WORK PLACE
Adhere to the general principles of hygiene and safety. Do not eat, drink, or smoke tobacco during the execution of work. Before the break and after completion of work. Carefully wash hands. Ensure that the workplace is ventilated or the whole room is ventilated in order for the concentration of the harmful agent within the air is below the allowable concentration limit. Avoid eye and skin contact.

ATTENTION! Residual monomer content under conditions to normal handling present no problems. However, high levels of monomer vapors can be released into workroom atmosphere when emulsions are heat cured or dried (rollers, ovens, infrared lamp, etc) if proper ventilation is not used.

PRECAUTIONS:
Spray from emulsions must not be inhaled. Respirators should be provided if engineering controls are not adequate. Inhalation exposures to mists or dusts of acrylic polymer should be maintained at (LESS THAN) 10 mg/m3 8-hour TWA limit established for nuisance dusts.

SKIN PROTECTION:
Use protective, impermeable gloves. The choice of proper gloves does not only depend on the material but also on other quality characteristics and is subject to change depending on the manufacturer. Gloves should be changed frequently and immediately replaced should any signs of wear, damage, or change of their looks (color, shape, flexibility) occur.

EYE PROTECTION:
Apply tight, protective goggles. Splash-proof safety goggles (ANSI Z87.1, 1968).

RESPIRATORY PROTECTION:
Follow OSHA Regulation 29CFR 1910.134 for Respiratory use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. If the concentration of solvents is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air supplied respirator (TC19C NIOSH/MSHA) is recommended.

OTHER PROTECTIVE EQUIPMENT:
Eyewash station, emergency shower.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	212 TO 999 (deg F)	% VOLATILE (VOLUME):	44.92
	100 TO 537 (deg C)	% NVM (WEIGHT) :	71.34
VAPOR DENSITY:	HEAVIER THAN AIR	% NVM (VOLUME) :	55.07
EVAP RATE :	SLOWER THAN BUTYL ACETATE		
DENSITY :	13.39 (lb/gl)		
:	1604.24 (gr/l)		
APPEARANCE :	GRAY IN COLOR		
ODOR :	SLIGHT AMINE ODOR		
WATER SOLUBLE:	YES		

OTHER INFORMATION

SOLVENTS :	8.360 (lb/gl)	VOC (as shipped):	.00 (lb/gl)
:	1001.52 (gr/l)	:	.12 (gr/l)

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY
No specific test data related to reactivity available for this product or its ingredients

CHEMICAL STABILITY
Stable.

OTHER
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID
Non Applicable.

INCOMPATIBLE MATERIALS
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield oxides of carbon, oxides of nitrogen and low molecular weight hydrocarbons. In baking systems, formaldehyde and ammonia may be present.

SECTION 11. TOXICOLOGICAL INFORMATION

TARGET ORGANS:
eyes, skin

EFFECTS OF OVEREXPOSURE:
INHALATION Vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs. Overexposure can have narcotic effect

SECTION 11. TOXICOLOGICAL INFORMATION

EYE CONTACT Slightly irritating to eyes.
SKIN CONTACT Irritating to skin upon repeated or prolonged contact.

PRIMARY ROUTES OF ENTRY:
Dermal, Inhalation, Ingestion.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

ECO-TOXICITY:
This product contains chemicals which are harmful to fish.

MOBILITY IN SOIL

This product dissolves in water and spreads through the environment.

ADDITIONAL INFORMATION
Large product quantities should be protected against accessing surface waters, sewerage system and soil.

Ecotoxicological information on this product's components appear in this section when such data is available

SECTION 13. DISPOSAL CONSIDERATIONS

COMPOUND RECOMMENDATIONS:
This product is classified as a non-hazardous waste.

The waste product should be subject to recycling or should be removed within certified incineration facilities or waste recycling/processing plants, in accordance with the obligatory regulation. It should not be removed along with communal waste.The remnants should be stored in original containers. The waste code should be provided within the location of the waste processing.

RECOMMENDATIONS WITH REGARD TO THE PACKAGING:
Packaging, which may not be cleaned should be treated in the same manner as the product.

ENVIRONMENTAL PRECAUTIONS:
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

SECTION 14. TRANSPORT INFORMATION

The product is not classified as dangerous during land, sea, or air transport.

UN NUMBER
Not applicable

UN PROPER SHIPPING NAME
PAINT, NON-FLAMMABLE LIQUID

TRANSPORTATION HAZARD CLASS
Not applicable

SECTION 14. TRANSPORT INFORMATION

PACKAGING GROUP
Not applicable

SPECIAL PRECAUTIONS FOR USER

TRANSPORT WITHIN USER'S PREMISES:
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15. REGULATORY INFORMATION

CHEMICAL SAFETY ASSESSMENT

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 313 SUPPLIER NOTIFICATION:

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent by weight

EUROPEAN INVENTORY STATUS (EINECS):

All components are either listed or are exempt from being listed on the EINECS chemical inventory

SECTION 16. OTHER INFORMATION

WORKSHOPS:
Prior to working with this product, the user should get acquainted with the health and safety regulations regarding chemical handling, and proper use in the workplace.

ADDITIONAL INFORMATION:
Product classification has been agreed based upon the actual concentration of each of the components as it presents real threats, which are imposed by this product. The real value of the concentrations of particular components always fits within the proper range. Therefore, for that reason final product classification may be different from the calculated classification based upon the general concentration values.

(NDS) Highest Allowable Concentration

HMIS RATING: H F R PP
2 0 0 J

SAFETY DATA SHEET

Date of issue/Date of revision 29 April 2016
Version 5

Section 1. Identification

Product name : TOP GUN 200 SILICONE ACRYLIC CAULK
Product code : 1414
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 4
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION (Unborn child) - Category 1B
TOXIC TO REPRODUCTION (Fertility) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 72%

GHS label elements
Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Harmful if inhaled.
May cause cancer.
May damage the unborn child.
Suspected of damaging fertility.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : TOP GUN 200 SILICONE ACRYLIC CAULK

Ingredient name	%	CAS number
benzyl butyl phthalate	≥5.0 - ≤8.3	85-68-7
titanium dioxide	≤1.0	13463-67-7
crystalline silica, respirable powder (<10 microns)	<1.0	14808-60-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Section 4. First aid measures

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
benzyl butyl phthalate	None.
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours.
crystalline silica, respirable powder (<10 microns)	**ACGIH TLV (United States, 3/2015).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **OSHA PEL Z3 (United States, 2/2013).** TWA: 10 MG/M3 / (%SiO2+2) 8 hours. Form: Respirable TWA: 250 MPPCF / (%SiO2+5) 8 hours. Form: Respirable **OSHA PEL Z3 (United States).** TWA: 30 mg/m³ Form: Total dust

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: >93.33°C (>200°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Evaporation rate : 0.33 (butyl acetate = 1)

Vapor pressure : 2.3 kPa (17.2 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.64

Density (lbs / gal) : 13.69

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Section 9. Physical and chemical properties

Volatility : 32% (v/v), 19.4% (w/w)

% Solid. (w/w) : 80.6

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl butyl phthalate	LC50 Inhalation Vapor	Rat	>6700 mg/m³	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Dermal	Rat	6700 mg/kg	-
	LD50 Oral	Rat	2.33 g/kg	-
titanium dioxide	LD50 Oral	Rat	>11 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
benzyl butyl phthalate	-	3	-
titanium dioxide	-	2B	-
crystalline silica, respirable powder (<10 microns)	-	1	Known to be a human carcinogen.

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category
crystalline silica, respirable powder (<10 microns)	Category 1

Target organs : Contains material which may cause damage to the following organs: lungs, mucous membranes, upper respiratory tract, skin, eyes, nose/sinuses.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : Harmful if inhaled.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 11. Toxicological information

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	10565.9 mg/kg
Inhalation (vapors)	13.6 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
benzyl butyl phthalate	4.73	16.22	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl butyl phthalate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl butyl phthalate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl butyl phthalate)
Transport hazard class (es)	9	9	9
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes.
Marine pollutant substances	Not applicable.	(benzyl butyl phthalate)	Not applicable.
Product RQ (lbs)	1622.3	Not applicable.	Not applicable.
RQ substances	(benzyl butyl phthalate)	Not applicable.	Not applicable.

Additional information

14. Transport information

DOT : The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous substances' that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity. Package sizes less than the product reportable quantity are not regulated as hazardous materials.

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
benzyl butyl phthalate	No.	No.	No.	Yes.	Yes.
titanium dioxide	No.	No.	No.	No.	Yes.
crystalline silica, respirable powder (<10 microns)	No.	No.	No.	No.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * **Flammability** : 1 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 **Flammability** : 1 **Instability** : 0

Date of previous issue : **6/25/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

1. Identification

Product identifier **Trans-X® Posi Trac® Limited Slip Gear Oil Additive**

Other means of identification

Product code 402508

Recommended use Gear oil additive

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. Avoid release to the environment.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

40.5% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 40.5% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), hydrotreated heavy naphthenic		64742-52-5	70 - 80
Methanol		67-56-1	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact
Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact
Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions
Move containers from fire area if you can do so without risk.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling
Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Use care in handling/storage. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities
Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
Methanol (CAS 67-56-1)	PEL	260 mg/m3	
		200 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.
Methanol (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
Methanol (CAS 67-56-1)	STEL	325 mg/m3	
		250 ppm	
	TWA	260 mg/m3	
		200 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Methanol (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Methanol (CAS 67-56-1) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile.

Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Dark amber.
Odor	Mild petroleum.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-40 °F (-40 °C) estimated
Initial boiling point and boiling range	620.6 °F (327 °C) estimated
Flash point	> 300 °F (> 148.9 °C) Tag Closed Cup
Evaporation rate	Slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	7.3 % estimated
Flammability limit - upper (%)	36 % estimated
Vapor pressure	3.8 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.9
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	73.3 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Prolonged skin contact may cause temporary irritation.

Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause stomach ache or discomfort.
Symptoms related to the physical, chemical and toxicological characteristics	Not available.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Product	Species	Test Results
Trans-X® Posi Trac® Limited Slip Gear Oil Additive		
Acute		
Dermal		
LD50	Rabbit	3361 mg/kg estimated
Oral		
LD50	Rat	5000 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
Trans-X® Posi Trac® Limited Slip Gear Oil Additive			
Aquatic			
Crustacea	EC50	Daphnia	3055.3831 mg/l, 48 hours estimated
Acute			
Fish	LC50	Fish	168.0672 mg/l, 96 hours estimated

Components		Species	Test Results
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 30000 mg/l
Methanol (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Methanol	-0.77

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
Methanol (CAS 67-56-1)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)
Methanol (CAS 67-56-1)

US. Massachusetts RTK - Substance List

Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Methanol (CAS 67-56-1)

US. Rhode Island RTK

None.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Cyanide (CAS 57-12-5) Listed: July 5, 2013

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	< 80 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	< 40 %
VOC content (OTC)	< 40 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	06-01-2015
Prepared by	Allison Cho
Version #	01

Further information	CRC # 914A
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 1 Personal protection: B
NFPA ratings	Health: 1 Flammability: 1 Instability: 1
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

MATERIAL SAFETY DATA SHEET

IDENTITY (*As used on label and list*)	**Part Numbers for this MSDS:**
TURBO FUSE ADHESIVE **Instant Bonding Super Glue**	04-110, 04-115, 04-120, 04-130, 04-143, 04-150, 04-160, 04-170, 04-180, 04-190 05-130, 06-130, S09-110, S09-130, S093-110, S093-130, 36-120, 10-110, 10-115, 10-120, 10-130, 10-143, 10-150, 10-160, 10-170, 10-180, 10-190, 15-110, 15-115, 15-120, 15-130, 15-143, 15-150, 15-160, 15-170, 15-180, 15-190, 20-110, 20-115, 20-120, 20-130, 20-143, 20-150, 20-160, 20-170, 20-180, 20-190, 25-110, 25-115, 25-120, 25-130, 25-143, 25-150, 25-160, 25-170, 25-180, 25-190, 30-110, 30-115, 30-120, 30-130, 30-143, 30-150, 30-160, 30-170, 30-180, 30-190, 35-110, 35-115, 35-120, 35-130, 35-143, 35-150, 35-160, 35-170, 35-180, 35-190, 36-110, 36-115, 36-120, 36-130, 36-143, 36-150, 36-160, 36-170, 36-180, 36-190

SECTION I

Manufacturer's Name	Emergency Telephone Number (800) 964-6660
Palm Labs., Inc **10 Office Way, Suite 250** **Hilton Head, SC, 29928**	Telephone Number For Information. (843) 686-2345
	Date Prepared 12/06/2013
	Signature of Preparer (optional)

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s)	CAS NO	EINECS NO	%
Ethyl Cyanoacrylate	7085-85-0	230-391-5	80 – 100

Ingredients With Exposure Limits	ACGIH (TLV)	OSHA (PEL)	OTHER
Ethyl Cyanoacrylate	0.2 ppm TWA	none	none

SECTION III - Physical/Chemical Characteristics

Appearance and Odor Clear liquid, Acrid odor	Boiling Point > 300° F.	Specific Gravity 1.05 – 1.08
Solubility in Water Polymerizes	Melting Point Not determined	Vapor Pressure < 0.2 mm Hg
VOC coefficient < 3 %	Evaporation Rate Not available	Autoignition Temp. 905° F

SECTION IV - Fire And Explosion Hazard Data

Flash Point (Tag Closed Cup)
176° F - 200° F

Extinguishing Media
Dry Powder, Foam, Carbon Dioxide

Special Fire Fighting Procedures
Firefighters should wear self-contained breathing apparatus

Hazardous Combustion Product
Trace amounts of toxic and/or irritating fumes may be released.

Unusual Fire and Explosion Hazards
None

SECTION V - Reactivity Data

Stability	Stable under recommended storage conditions
Incompatible Materials to Avoid	Water, amines, alkalis and alcohol
Hazardous Polymerization	Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
Hazardous Decomposition Products	None
Conditions to avoid	Spontaneous polymerization

SECTION VI - Health Hazard Data

Routes of Entry	Inhalation?	Skin?	Ingestion?	Eys?
	Yes	Yes	No	Yes

First Aid Measures:	Inhalation	Remove to fresh Air
	Skin Contact	Soak in warm water, do not pull apart. May gently pry apart. Cyanoacrylates give off heat on solidification and in rare cases, a large drop can generate enough heat to cause a burn. Burns should be treated normally after adhesive is removed. If lips are stuck together, use saliva inside the mouth to provide maximum wetting and gently roll apart.
	Ingestion	Ensure that breathing passages are unobstructed. The product will polymerize immediately in the mouth making it impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).
	Eye Contact	If eye is bonded closed, release eyelashes with warm water by covering with wet pad. Product will bond to eye protein causing lachrymatory effect which will help debond material. Keep eye covered with wet, warm pads 1-3 days until debonding is complete. Do not force eye open. Seek medical attention if solids are trapped behind the eyelid.

Carcinogenicity	NTP	IARC Monograghs?	OSHA Regulated?
	None	No	No

Toxicological Information

Inhalation	Vapors irritating to respiratory system and eyes in dry atmospheres. Prolonged exposure to high concentration may lead to chronic effects in sensitive individuals.
Skin	Irritating to the skin. Bonds skin in seconds. Considered to be of low toxicity: acute dermal LD50 rabbit>2000mg/kg. Due to polymerization at the skin surface, allergic reaction in unlikely to occur.
Ingestion	Cyanoacrylates are considered to have low toxicity. Acute oral LD50 is >5000mg/kg (rat). It is almost impossible to swallow as it polymerizes instantly in the mouth.
Eyes	Irritant to the eyes. Liquid product will bond eyelids. In dry atmospheres (RH<50%), vapors may cause irritation and lachrymatory effect.

SECTION VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Ventilate area and prevent product from entering waterways. Flush area with copious amounts of cool water. Allow to harden and break up and dispose of according to local regulations. Cured material can be disposed of as non-hazardous waste. Do not use cloths for mopping up.

Waste Disposal Method.

Cured material can be disposed of as non-hazardous waste. Do not use cloths for mopping up.

Ecotoxicity Effects

Biodegradable product of low ecotoxicity. Biological and Chemical Oxygen Demands (BOD and COD) are insignificant.
Not a water pollutant.

Safe Handling

Ventilation is recommended when using large volumes. Avoid skin and eye contact. Material should be handled in a cool, dry area. Use polyethylene or polypropylene gloves when handling large volumes. DO NOT USE PVC, rubber, nylon or cotton gloves. Eye protection should be used any time there is a risk of splattering.

Safe Storage

Material should be handled in a cool, dry area. Containers should be kept tightly closed. Avoid storage in sunlight. For maximum shelf life, store material in original containers and keep refrigerated (36^{o}-46^{o}F).

SECTION VIII – Transport Information

Land Transport (USDOT):	
Proper shipping name:	Combustable liquid n.o.s. (Cyanoacrylate ester)
Hazard class or division	Combustable liquid
Identification Number	None
Packing Group	Unrestricted (not more than 450 Liters)
Sea Transportation (IMDG):	
Proper shipping name	Unrestricted
Hazard class or division	None
Identification Number	None
Packing Group	None
Air Transportation (IATA/ICAO):	
Proper shipping name	Aviation regulated liquids n.o.s. (Cyanoacrylate ester)
Hazard class or division	9
Identification Number	UN 3334
Packing Group	None
Exceptions	*Primary packs < 500 ml are unregulated and may be shipped as unrestricted.*

PALM LABS INC.

SAFETY DATA SHEET

UNION CARBIDE CORPORATION

Product name: UCON™ Refrigeration Lubricant 488

Issue Date: 03/02/2015
Print Date: 07/10/2015

UNION CARBIDE CORPORATION encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: UCON™ Refrigeration Lubricant 488

Recommended use of the chemical and restrictions on use
Identified uses: Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a match-up with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
UNION CARBIDE CORPORATION
A Subsidiary of The Dow Chemical Company
1254 ENCLAVE PARKWAY
HOUSTON TX 77077-1607
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Polyalkylene glycol	Trade secret	> 99.0 %

4. FIRST AID MEASURES

Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Repeated excessive exposure may aggravate preexisting lung disease. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid breathing mist. Use with adequate ventilation. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Shelf life: Use within

24 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

None established

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Under intended handling conditions, no respiratory protection should be needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Blue
Odor	Mild
Odor Threshold	No test data available
pH	5.0 - 8.0 *ASTM E70* (10% aqueous solution)
Melting point/range	Not applicable to liquids
Freezing point	See Pour Point
Boiling point (760 mmHg)	> 200 °C (> 392 °F) *Calculated.*
Flash point	**closed cup** 204 °C (399 °F) *ASTM D 93*

Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.01 mmHg at 20 °C (68 °F) *ASTM E1719*
Relative Vapor Density (air = 1)	51.83 *Calculated.*
Relative Density (water = 1)	1.051 at 20 °C (68 °F) / 20 °C *Calculated.*
Water solubility	100 % at 20 °C (68 °F) *Visual*
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	124 - 139 cSt at 40 °C (104 °F) *ASTM D 445*
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	No test data available
Molecular formula	Trade secret
pour point	-51 °C (-60 °F) *ASTM D97*
Volatile Organic Compounds	1.99 g/L *EPA Method No. 24*

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD50, Rat, 6,800 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50, Rabbit, > 16,000 mg/kg

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.

As product: The LC50 has not been determined.

For the major component(s):
LC50, Rat, 4 Hour, Aerosol, > 5 mg/l

Skin corrosion/irritation
Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation
Essentially nonirritating to eyes.
Corneal injury is unlikely.

Sensitization
For the major component(s):
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

Carcinogenicity
Similar material(s) did not cause cancer in laboratory animals.

Teratogenicity
No specific, relevant data available for assessment.

Reproductive toxicity
No specific, relevant data available for assessment.

Mutagenicity
No specific, relevant data available for assessment.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 10,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l, OECD Test Guideline 202 or Equivalent

Toxicity to bacteria
IC50, Bacteria, static test, 16 Hour, Growth inhibition, > 5,000 mg/l

Persistence and degradability

Biodegradability: Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

Theoretical Oxygen Demand: 2.20 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	4 %
10 d	29 %
20 d	29 %

Bioaccumulative potential

Bioaccumulation: No data available for this product. For the major component(s): No bioconcentration is expected because of the relatively high water solubility.

Mobility in soil
No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances knownto the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Fire	Reactivity
0	1	0

Revision
Identification Number: 101234031 / A004 / Issue Date: 03/02/2015 / Version: 7.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

UNION CARBIDE CORPORATION urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ULTRA HD
PRODUCT NUMBER: 217
PRODUCT FAMILY: ALKALINE DETERGENT
MANUFACTURER: KO MANUFACTURING, INC
2720 E. DIVISION STREET
SPRINGFIELD, MO 65803
417-866-8000
EMERGENCY CONTACT: CHEMTREC 800-424-9300
INFORMATION USE: HEAVY DUTY CLEANER

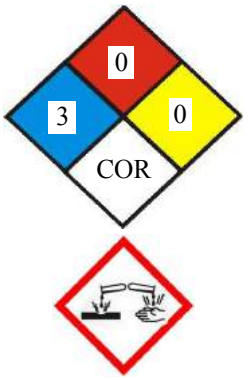
DATE PREPARED: 5/1/2014
SUPERCEDED DATE: 7/1/2013

2. HAZARD IDENTIFICATION

SIGNAL WORD: DANGER

HAZARD CLASSIFICATION: CORROSIVE LIQUID

POTENTIAL HEALTH EFFECT: BURNS AND SEVERE IRRITATION



ROUTE OF EXPOSURE: EYE CONTACT, SKIN CONTACT, INGESTION AND INHALATION

SKIN CONTACT: MAY CAUSE SEVERE IRRITATION OR BURNS ON DIRECT CONTACT.

EYE CONTACT: BURNS AND SEVERE IRRITATION

INGESTION: MAY CAUSE SEVERE IRRITATION OR BURNS TO MOUTH, THROAT AND STOMACH.

INHALATION: MAY CAUSE IRRITATION OR BURNS TO NOSE AND THROAT.

3.COMPOSITION IDENTIFICATION

INGREDIENTS:	C.A.S. NUMBER:	PERCENT:
SODIUM HYDROXIDE	1310-73-2	<10.0%
2-BUTOXYETHANOL	111-76-2	<4.0%
PROPRIETARY SURFACTANT BLEND	BLEND	<8.0%

4. FIRST AID MEASURES

EYE CONTACT: RINSE WITH FRESH WATER FOR 15 MINUTES, LIFTING EYELIDS OCCASIONALLY. CALL A PHYSICIAN IMMEDIATELY.

SKIN CONTACT: RINSE WITH PLENTY OF FRESH WATER AND REMOVE CONTAMINATED CLOTHING IMMEDIATELY. CALL A PHYSICIAN IF IRRITATION PERSISTS.

INGESTION: DO NOT INDUCE VOMITING. CALL A PHYSICIAN IMMEDIATELY. IF CONSCIOUS, GIVE LARGE QUANTITIES OF WATER. DO NOT GIVE ANYTHING BY MOUTH IF UNCONSCIOUS.

INHALATION: IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. CALL A PHYSICIAN IMMEDIATELY.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: NON FLAMMABLE.

FLASH POINT: DOES NOT FLASH.

SUITABLE EXTINGUISHING MEDIA: DRY CHEMICAL, FOAM OR CARBON DIOXIDE, WATER SPRAY.

UNSUITABLE EXTINGUISHING MEDIA: NOT ESTABLISHED.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: NONE KNOWN.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: WEAR SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND MSHA/NIOSH APPPROVED) AND FULL PROTECTIVE GEAR.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: AVOID CONTACT WITH EYES AND SKIN. SPILL AREA MAY BE SLIPPERY. WEAR PROPER PROTECTIVE EQUIPMENT WHEN DEALING WITH RELEASE.

ENVIRONMENTAL PRECAUTIONS: CONTAIN SPILL TO AVOID RELEASE TO THE ENVIRONMENT. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.

METHODS FOR CONTAINMENT AND CLEAN-UP: COLLECT LIQUID WITH AN INERT ABSORBENT AND TRANSFER TO CONTAINER FOR REUSE OR DISPOSAL. DIKE AND CONTAIN SPILL.

7. HANDLING AND STORAGE

HANDLING: AVOID CONTACT WITH EYES AND SKIN. WASH THOROUGHLY AFTER HANDLING. ALWAYS WEAR PROPER PROTECTIVE EQUIPMENT WHEN HANDLING.

STORAGE: AVOID RELEASE TO THE ENVIRONMENT. STORE IN A COOL, DRY PLACE. KEEP OUT OF REACH OF CHILDREN. USE CARE WHEN HANDLING AND STORING.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THRESHOLD LIMIT VALUE (TLV): SODIUM HYDROXIDE, 2 MG/M^3; 2-BUTOXYETHANOL, 20 PPM

ENGINEERING CONTROLS: NONE REQUIRED UNDER NORMAL USE.

EYE / FACE PROTECTION: CHEMICAL SAFETY GOGGLES AND FULL FACE SHIELD.

SKIN PROTECTION: CHEMICAL RESISTANT GLOVES AND IMPERVIOUS APRON AND BOOTS.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: LIQUID.

APPEARANCE: CLEAR GREENISH-YELLOW LIQUID.

ODOR: LIGHT SOLVENT SCENT.

BOILING POINT: NOT ESTABLISHED.

FREEZING POINT: NOT ESTABLISHED.

SPECIFIC GRAVITY: 1.12

pH (1%): 11.8-12.1

EVAPORATION RATE: LESS THAN 1.

FLASH POINT: DOES NOT FLASH.

VISCOSITY: NOT ESTABLISHED.

REALITIVE DENSITY: 9.4 LBS/GL

SOLUBILITY: SOLUBLE.

VAPOR PRESSURE: NOT ESTABLISHED.

VAPOR DENSITY: NOT ESTABLISHED.

DECOMPOSITION TEMPERATURE: NOT ESTABLISHED.

PARTICAL COEFFICIENT: N-OCTANOL/WATER NOT ESTABLISHED.

LOWER FLAMMABILITY/EXPLOSIVE LIMIT: NOT ESTABLISHED.

UPPER FLAMMABLE/EXPLOSIVE LIMIT: NOT ESTABLISHED.

AUTO-IGNITION TEMPERATURE: NOT ESTABLISHED.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE.

CONDITIONS TO AVOID: NO UNUSUAL CONDITIONS.

INCOMPATIBLE MATERIALS: SOFT METALS AND ACIDIC COMPOUNDS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND DIOXIDE FROM THERMAL DECOMPOSITION.

11. TOXICOLOGICAL INFORMATION

EYE IRRITATION/CORROSION: CORROSIVE TO EYES AND SKIN.
EFFECTS OF SHORT-TERM EXPOSURE: IRRITATION OR BURNS TO EYES, SKIN AND MOUTH.
INGESTION: MAY CAUSE BURNS TO MOUTH, THROAT AND STOMACH.

12.ECOLOGICAL IDENTIFICATION

ECOTOXICITY: NOT ESTABLISHED.
PERSISTENCE AND DEGRADABILITY: BIODEGRADABLE.
BIOACCUMULATION/ACCUMULATION NOT ESTABLISHED.

13.DISPOSAL CONDITIONS

THIS MATERIAL WHEN DISCARDED IS A HAZARDOUS WASTE DEFINED BY 40 CFR 261. MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

14. TRANSPORTATION INFORMATION

GROUND SHIPPING INFORMATION:
UN1760, CORROSIVE LIQUID, N.O.S., (SODIUM HYDROXIDE), 8, PGIII

WATER SHIPPING INFORMATION:
UN1760, CORROSIVE LIQUID, N.O.S., (SODIUM HYDROXIDE), 8, PGIII

AIR SHIPPING INFORMATION:
UN1760, CORROSIVE LIQUID, N.O.S., (SODIUM HYDROXIDE), 8, PGIII

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS:
TSCA (TOXIC SUBSTANCE CONTROL ACT) ALL COMPONENTS LISTED ON TSCA INVENTORY.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

313 REPORTABLE INGREDIENTS	CAS NUMBER:	PERCENT:
GLYCOL ETHERS	CATEGORY N230	3.0%

STATE REGULATIONS: CALIFORNIA PROPOSITION 65 -THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS CURRENTLY LISTED.

INTERNATIONAL REGULATIONS: CLASS E CORROSIVE UNDER CANADIAN WHMIS

SECTION 15 NOTES: NONE.

16. OTHER INFORMATION

PHONE NUMBER: 417-866-8000
DATE OF PREPARATION: 5/1/2014

SAFETY DATA SHEET

Date of issue/Date of revision 26 September 2014
Version 1

Section 1. Identification

Product name : ULTRAGUARD ATP50FR
Product code : UGATP50FR
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Coating. Paints. Painting-related materials.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-627-6015 (EUCLID, OH) 8:00 a.m. - 5:00 p.m. Eastern

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
Apply generous quantities of fresh calcium gluconate gel to all areas. Get immediate medical attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : ULTRAGUARD ATP50FR

Ingredient name	%	CAS number
sodium 3-nitrobenzenesulphonate	3 - 7	127-68-4
Phosphoric acid, solution	1 - 5	7664-38-2
ammonium bifluoride	0.5 - 1.5	1341-49-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Apply generous quantities of fresh calcium gluconate gel to all areas. Get immediate medical attention.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Phosphoric acid, solution	**ACGIH TLV (United States, 6/2013).** STEL: 3 mg/m³ 15 minutes. TWA: 1 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 1 mg/m³ 8 hours.
ammonium bifluoride	**OSHA PEL Z2 (United States, 2/2013).** TWA: 2.5 mg/m³ 8 hours. Form: Dust **ACGIH TLV (United States, 6/2013).** TWA: 2.5 mg/m³, (as F) 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 2.5 mg/m³, (as F) 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : 4

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Evaporation rate : 0.36 (butyl acetate = 1)

Vapor pressure : 2.3 kPa (17.5 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.14

Density (lbs / gal) : 9.51

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 83% (v/v), 77.43% (w/w)

Section 9. Physical and chemical properties

% Solid. (w/w) : 22.57

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium 3-nitrobenzenesulphonate	LD50 Oral	Rat	11 g/kg	-
Phosphoric acid, solution	LD50 Dermal	Rabbit	2.74 g/kg	-
	LD50 Oral	Rat	1.25 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
ammonium bifluoride	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category
ammonium bifluoride	Category 2

Target organs : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, bones, eye, lens or cornea, teeth.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal	6890 mg/kg 76112.1 mg/kg

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
sodium 3-nitrobenzenesulphonate	-2.61	5.01	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	3264	3264	3264
UN proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, solution)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, solution)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid, solution)
Transport hazard class (es)	8	8	8
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Product RQ (lbs)	8595.7	Not applicable.	Not applicable.
RQ substances	(ammonium bifluoride)	Not applicable.	Not applicable.

Additional information

DOT : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : The segregation group has been manually assigned based upon product analysis.

IATA : None identified.

14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : Not determined.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : Not determined.
Korea inventory (KECI) : Not determined.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : Not determined.

United States

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
sodium 3-nitrobenzenesulphonate	Yes.	No.	No.	Yes.	No.
Phosphoric acid, solution	No.	No.	No.	Yes.	No.
ammonium bifluoride	No.	No.	No.	Yes.	Yes.

SARA 313

Supplier notification :

Chemical name	CAS number	Concentration
ammonium bifluoride	1341-49-7	0.5 - 1.5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 4 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 4 **Flammability** : 0 **Instability** : 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

UP2251, UP2252, UP2253 2K PRIMER FILLER HS (4:1)

Compilation date: 18/02/2009

Revision date: 18/07/2012

Revision No: 1

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: UP2251, UP2252, UP2253 2K PRIMER FILLER HS (4:1)

Product code: S2025

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: PAINT PRODUCT CONTAINING MIXTURE OF SOLVENTS

1.3. Details of the supplier of the safety data sheet

Company name: U-POL US Inc.
630 Selvaggio Drive
Suite 300
Nazareth
PA 18064
USA

Tel: 1-800-340-7824

Fax: 1-800-787-5150

Email: technical:u-pol.com

1.4. Emergency telephone number

Emergency tel: 1-800-424-9300 (CHEMTREC)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: -: R10

Most important adverse effects: Flammable.

Classification under CLP: This product has no classification under CLP.

2.2. Label elements

Label elements under CHIP:

Hazard symbols: No significant hazard.

Risk phrases: R10: Flammable.

Safety phrases: S16: Keep away from sources of ignition - No smoking.
S23: Do not breathe vapour/spray
S36/37: Wear suitable protective clothing and gloves.
S38: In case of insufficient ventilation, wear suitable respiratory equipment.

[cont...]

2.3. Other hazards

PBT: This substance is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: UP2251, UP2252, UP2253 2K PRIMER FILLER HS (4:1)

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water. Remove all contaminated clothes and footwear immediately unless stuck to skin.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Do not induce vomiting. Wash out mouth with water. Transfer to hospital as soon as possible.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and pain.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Carbon dioxide. Dry chemical powder. Alcohol or polymer foam. Do not use water.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Flammable. In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

[cont...]

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Wash the spillage site with large amounts of water. Refer to section 13 of SDS for suitable method of disposal.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Ensure there is sufficient ventilation of the area. Smoking is forbidden.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: Not applicable.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Compressed airline breathing apparatus (EN139).

Hand protection: Nitrile gloves.

Eye protection: Face-shield.

Skin protection: Protective clothing with elasticated cuffs and closed neck.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Pale grey

Odour: Aromatic

Evaporation rate: Moderate

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Insoluble

Also soluble in: Most organic solvents.

Viscosity: Viscous

Kinematic viscosity: 6600cps

Flammability limits %: lower: 1.0 **upper:** 6.6

Flash point°C: 24

[cont...]

Autoflammability°C: 490

Relative density: 1.66 **VOC g/l:** 415 (3.49 lbs/gal)

9.2. Other information

Other information: Not applicable.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat. Sources of ignition.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values: Not applicable.

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and pain.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: Not applicable.

12.2. Persistence and degradability

Persistence and degradability: Not biodegradable.

[cont...]

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: Volatile. Heavier than water.

12.5. Results of PBT and vPvB assessment

PBT identification: This substance is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: No data available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Incineration on land.

Recovery operations: Use principally as a fuel or other means to generate energy.

Disposal of packaging: Dispose of in a regulated landfill site or other method for hazardous or toxic wastes.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN1263

14.2. UN proper shipping name

Shipping name: PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

Transport class: 3

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: No **Marine pollutant:** No

14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: D/E

Transport category: 3

Section 15: Regulatory information

[cont...]

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

FOR PROFESSIONAL USE ONLY. Read full instructions before use.

IMPORTANT: This product contains hazardous materials and therefore appropriate personal protective equipment should always be used.

Please refer to the label and consult the material safety data sheet for full handling instructions and personal protection information. These are available via your local stockist or via the U-POL website at WWW.U-POL.COM.

U-POL disclaim any liability where the user does not wear the recommended personal protective equipment.

Phrases used in s.2 and 3: R10: Flammable.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Addition of reducers, hardeners and other additives over and above U-POL's recommendations for use, may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, this company shall not be held liable for any damage resulting from handling or from contact with the above product.

MATERIAL SAFETY DATA SHEET

DATE PRINTED: JUL 14, 2006
MSDS NO. VIT000 OUTBOUND
Vitrified Bonded Abrasive Products

Norton Company

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME
Vitrified Bonded Abrasive Products
TRADE NAME
Alundum, Crystolon, Seeded Gel
MANUFACTURER(4)
Saint-Gobain Abrasives, Inc.
One New Bond Street
Worcester, MA, 01606
(508) 795-5000
REVISION DATE
2/01/2006
MSDS PRINT FORMAT
NUSA

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Aluminum Oxide, Non-fibrous	30.000- 95.000	1344-28-1
Chrome oxide(*)	1.000- 2.000	1308-38-9
Cobalt Aluminate (*)	0.100- 2.000	1345-16-0
Amorphous Silica, Fused	2.000- 30.000	60676-86-0
Silicon Carbide	30.000- 95.000	409-21-2
Sulfur	15.000- 40.000	7704-34-9

OTHER
(*)This substance is regulated under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and the Canadian National Pollution Reduction Initiative (NPRI). The grinding wheel may be comprised of only some of the above.

SECTION 3. HAZARDS IDENTIFICATION

INHALATION ACUTE EXPOSURE EFFECTS
Dust may be slightly irritating to eyes and respiratory tract at high concentrations.
INHALATION CHRONIC EXPOSURE EFFECTS

May affect breathing capacity. For products containing Amorphous Silica, Fused, there is limited evidence in animals that excessive and prolonged exposure to this chemical may cause pulmonary fibrosis The chrome and Cobalt are fused into the glass matrix and are expected to pose little risk.
EYE CONTACT ACUTE EXPOSURE EFFECTS
Dust may irritate eyes.
SKIN CONTACT ACUTE EXPOSURE EFFECTS
Some may experience skin irritation from dust.
INGESTION ACUTE EXPOSURE EFFECTS
No known adverse effects, but ingestion not recommended.

SECTION 4. FIRST AID MEASURES

INHALATION

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.
SKIN CONTACT
Wash affected areas with soap and water. Obtain medical assistance.
EYE CONTACT
Wash with large amounts of water. Obtain first aid and medical assistance, if needed.
INGESTION
Call poison control center, hospital emergency room or physician immediately.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING PROCEDURES
Not Applicable
HAZARDOUS PRODUCTS/COMBUSTION
None.
HAZARD RATING SOURCE
NFPA
HEALTH
1
FLAMMABILITY
0
REACTIVITY
0
OTHER

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP
Follow normal clean up procedures.

SECTION 7. HANDLING AND STORAGE

HANDLING
Always HANDLE AND STORE wheels in a CAREFUL manner.
Always VISUALLY INSPECT all wheels before mounting.
Always CHECK MACHINE SPEED against the established maximum safe operating speed MARKED ON THE WHEEL.
Always CHECK MOUNTING FLANGES for equal and correct diameter.
Always USE MOUNTING BLOTTERS.
Always be sure WORK REST is properly adjusted.
Always USE A SAFETY GUARD covering at least one-half of the grinding wheel.
Always allow NEWLY MOUNTED WHEELS to run at operating speed, with guard in place, for at least one minute before grinding.
Always TURN OFF COOLANT before stopping wheel to avoid creating an out-of-balance wheel

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION PROTECTION
Handle with adequate ventilation. See OSHA 29 CFR 1910.94 (ventilation) and 29 CFR 1910.1000 (Air contaminants).
RESPIRATORY PROTECTION
Respirators are required when airborne contaminant levels exceed the TLV(s).
EYE PROTECTION
Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
OTHER PROTECTION
Use of this product may create elevated sound levels. Hearing

protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR
Solid article. Odorless.

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
Avoid acids of all types with a pH < 4.0.
DECOMPOSITION
In use, dusts and decomposing odors may be generated. In most cases, the material removed from the workpiece will be significantly greater than the grinding wheel components. Coolants may produce other decomposition products.

For products containing phenol and formaldehyde resin, thermal decomposition may produce trace amounts of phenol and formaldehyde.

For products containing inorganic fluorides, thermal decomposition may produce trace amounts of fluorides.

SECTION 11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
Silica, Amorphous, Fused - IARC-3, NIOSH-X
Cobalt-IARC 2B, Chrome (III) - IARC-3
LD50/LC50
Values are not appropriate or available.

SECTION 12. ECOLOGICAL INFORMATION

CHEMICAL FATE
Vitrified products do not appreciably decay.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.
Products with listed flourides may have slightly soluble flouride swarf.
RECYCLING PROGRAM - the Company has developed a grinding wheel recycling program. If you are interested in returning your stubs, information can be obtained by dialing Customer Service.

SECTION 14. TRANSPORT INFORMATION

HAZARD CLASS
This product is not hazardous as defined by the Department of Transportation.(USA)
This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

SECTION 15. REGULATORY INFORMATION

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	UNITS	OSHA	ACGIH	MOL
Aluminum Oxide, Non-fibrous	MG/M3	15.0000	10.0000	10.0000
Chrome oxide(*)		0.0000	0.0000	0.0000
Cobalt Aluminate (*)	MG/M3	0.0500	0.0200	0.0000
Amorphous Silica, Fused	MG/M3	0.1000	0.1000	0.0000
Silicon Carbide	MG/M3	10.0000	10.0000	10.0000
Sulfur	MG/M3	0.0000	0.0000	0.0000

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS
CA PROP 65
Not Applicable
TSCA
Section 8(b) - Inventory Status

All components of this product are registered under the regulations of the Toxic Substance Control Act.
DOMESTIC SUBSTANCE LIST
All components of this product are found on the Domestic Substance List.

SECTION 16. OTHER INFORMATION

DISCLAIMER
The information and recommendations set forth herein are taken from sources believed to be accurate as of the date hereof; however, the Company makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.

KEY TO ABBREVIATIONS:

EQ=EQual	LT=Less Than	GT=Greater Than
AP=APproximately =	TR=TRace	ND=No Data available

Vortex™
SPRAY ON LINER

Material Safety Data Sheet

Vortex Sprayliners, Inc.
27161 Burbank St.
Foothill Ranch, California 92610
Emergency Phone: (949) 770-5055
(949) 459-0956
Contact: John M. Kott

I CHEMICAL PRODUCT IDENTIFICATION

Product name: Vortex Color Resin Base
Family Name: Polyol System
Polyurethane Polyol System

- TRADE SECRET

II HAZARDOUS INGREDIENTS

Diethyltoluenediamine (DETA)
CAS: 68479-98-1OSHA Not Established Less than 31%
Threshold limit values have not been established for this product.

III HAZARDS IDENTIFICATION:

Color: Yellow Form: Liquid Odor: Amine Type

Potential Health Effects:
Routes of Entry: Inhalation; Skin contact; Skin absorption: Eye contact.

Effects of overexposure:
Acute Inhalation: This material has very low vapor pressure. It is unlikely that inhalation exposure will occur when handling this product. However, during heating or spray application it is possible that an exposure could occur. It can cause irritation of the respiratory tract, mouth, nose and throat. Symptoms may include coughing, headache, nausea & chest pain. Fresh air hood system is recommended to be used when applying this product.

Acute Skin Contact: Upon contact, irritation of the skin is possible. Skin sensitizing may occur and may cause an allergic skin reaction. Rubber disposable gloves are recommended when handling this product.

Acute Eye Contact: This product can cause severe irritation to the eyes. Eye goggles or Air Transfer Hood should be used when applying this product.

Acute Ingestion: None reported for this product. Irritation of the mouth, throat, esophagus and stomach is possible.

Carcinogenicity: This product is not listed as a carcinogen by the NTP, IARC or OSHA.

IV FIRST AID

First Aid for Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes. Get medical attention.

First Aid Skin: Remove all contaminated clothing and shoes. Wash affected areas, including hair. Wash

with soap and water and polyethlene glycol 400 to remove heavy residue. Use COLD water. Get medical attention as necessary.

First Aid For Inhalation: Remove person to fresh air if breathing becomes difficult. If breathing has stopped, administer artificial respiration. Consult a physician immediately if breathing is difficult or has stopped.

First Aid For Ingestion: If ingested, consult a physician. Give two glasses of water for dilution. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

V FIRE FIGHTING MEASURES

Flash Point: 342 F (172 C)
Auto-Ignition Temperature: Not Established
Special Fire Fighting Procedures: Full emergency equipment with self contained breathing apparatus and protective clothing should be worn by fire fighters. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Material supports combustion. During a fire, irritating and toxic gases such as carbon monoxide may be generated by thermal decomposition or combustion. Do not spray fire directly. A solid stream of water directed into the hot burning liquid could cause frothing.

VI ACCIDENTAL RELEASE MEASURES:

Spill or Leak Procedures: Remove all sources of flames, heating elements, etc. Clean up personal should wear self contained breathing apparatus and protective clothing. Dam up to prevent spreading and contamination of surround ground waters and drinking supplies. Notify local health authoritics. Use vermiculite absorbent to absorb as much as possible of the remaining product. Scoop up and dispose of in accordance with local and state waste regulations. Clean up the spilled areas with snap and water. Ventilate area to remove the remaining vapor.

VII HANDLING AND STORAGE:

Storage Temperature: Ambient
Shelf Life: 12 months
Special Sensitivity: material is hy7groscopic and may absorb small amounts of atmospheric moisture. Store in clean, dry arca.
Handling / Storage Precautions: Containers should be tightly closed to prevent contamination with foreign materials and moisture. Avoid skin and eye contact. Avoid breathign vapors if generated.

VIII PERSONAL PROTECTION:

Eye Protection Requirements: Wear safety goggles. Face shields can also be worn. Contact lenses should not be worn by person handling this product.
Skin Protection: Disposable rubber gloves are recommended.
Ventilation Protection; Local exhaust ventilation system is required.
Respiratory Protection: Air Transfer Hood is recommended when applying and handling this product.

IX PHYSICAL PROPERTIES

Physical Form:	Liquid	Solubility in Water:	Partially Solublc
Color:	Yellow / Amber	Specific Gravity;	1.0279 @ 77F (25C)
Odor:	Amine Type Odor	Bulk Density:	8.12 lbs per gallon.
pH:	Approximately 10	Vapor Density:	Not established
Boiling Point:	Not Established	VOC by weight	None
Melting / Freezing Point:	Not Established	Hazardous Polymerization:	Will not occur

Incompatibilities: Oxidizing materials, halogens, isocyanates and acids.
Instability Conditions: Avoid high temperatures, sparks and flame.
Decomposition Temperature; Not Established
Decomposition Products: By Fire – CO, CO2, oxides of nitrogen, amines and other aliphatic fragments which have not been determined.

XI DISPOSAL METHODS

Waste Disposal Method: Waste disposal must be in compliance with federal, state or local environmental control regulations. If incinerated, toxic and corrosive combustion gases must be properly handled.
Empty Container Precautions: All empty containers should be disposed of in accordance with state, local and federal environmental regulations.

XII TRANSPORTATION INFORMATION:

Technical Shipping Name: Polyether Polyol System containing Aromatic Diamine.
DOT Class: Non Hazardous / Not regulated
Freight Class Bulk Propylene Glycol
Air Class: Non Regulated.

HMIS Rating: 2 – 1 – 0

This information is furnished without warranty, expressed or implied, except that it is accurate to the best of the knowledge of the Vortex Sprayliners Corporation. The data on this sheet relates only to the specific material designated herein. Vortex Sprayliners, Inc. assumes no legal responsibility for use or reliance upon these data.

* TRADE SECRET: (Also see Section I – Federal Register Vol. 48 No. 228 Nov. 25, 1983 Rules and Regulations)
OSHA has given special consideration to chemical information that the chemical manufacturer or distributor considers to be a trade secret [29 CFR 1910.1200 (I)] Products for which trade secrecy has been claimed must be accompanied by a material safety data sheet. The manufacturer must also specify on the MSDS that the chemical's identity is a trade secret.

SAFETY DATA SHEET

Aero Cosmetics No. 787

SECTION 1: IDENTIFICATION

PART NUMBER	787
PRODUCT NAME	Wash Wax ALL Degreaser
MSDS REVISION NUMBER	6
DATE OF PREPARATION OR REVISION	January 26, 2016
RECOMMENDED USE	Aircraft, Marine, and Automotive Multi Surface Cleaner/ Protector

MANUFACTURER INFORMATION

Aero Cosmetics Products, LLC
PO Box 460025
411 Sandau Road
San Antonio, TX 78216
EMERGENCY: 1-800-927-4929

SECTION 2: HAZARD IDENTIFICATION

PRODUCT CONTAINS NO HAZARDOUS INGREDIENTS- Product is non hazardous

PICTOGRAMS:

Signal Word: Warning

POTENTIAL HEALTH EFFECTS

Contact with eyes: May cause slight redness or irritation
Skin: No effect.
Ingestion: No effect
Inhalation: No effect.
Carcinogen Data: None of the ingredients in the product are listed with OSHA, IARP, or NTP as being carcinogenic.

SECTION 3: COMPOSITION, INFORMATION or INGREDIENTS

CAS Number	Wt %	Component Name
None		None

CHEMICAL CHARACTERRIZATION: Water based, surfactant / polymer emulsion
HAZARDOUS INGREDIENTS: Product does not contain hazardous ingredients**.**

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: FIRST AID MEASURES

EYE: Flush with fresh water. If any irritation or discomfort occurs, consult physician.
SKIN: No first aid needed. Rinse Skin with water
INGESTION: If product is ingested rinse mouth. If you feel unwell, get medical attention.
INHALATION: Low inhalation risk with normal use. Remove person to fresh air.
MOST IMPORTANT SYMPTOMS AND EFFECTS: None

SECTION 5: FIRE FIGHTING MEASURES

MATERIAL IS CONSIDERED A NON-FLAMMABLE LIQUID
EXTINGUISHING MEDIA: This product does not represent a fire hazard since it contains a high amount of water.
SPECIAL FIRE FIGHTING PROCEDURES: NONE
FIRE AND EXPLOSION HAZARDS: NONE KNOWN

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL CLEANUP: absorb material to be collected and contain for disposal
WASTE DISPOSAL METHOD: Mop, wipe, or soak up with absorbent material and place in container. Check local ordinances for acceptable PH of discharge water and throw away material used to absorb spill

SECTION 7: HANDLING AND STORAGE

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PRECAUTIONS FOR SAFE HANDLING: As with all chemicals- keep out of the reach of children. Avoid contact with eyes.
CONDITIONS FOR SAFE STORAGE: Keep from freezing and extreme heat

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

EXPOSURE GUIDELINES: Product is a non-hazardous mixture, exposure value not available
SKIN PROTECTION: Product is non-hazardous. No special protection needed
EYE PROTECTION: Eye contact is not expected with normal use, but safety glasses with side shields are recommended as a minimum for any type of chemical handling.
RESPIRATORY PROTECTION: None needed
VENTILATION: No special ventilation needed

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Red milky liquid
ODOR	None
PHYSICAL STATE	liquid
pH	9-9.3
VAPOR PRESSURE	0.0503 mm.Hg at 0C
VAPOR DENSITY	0.622
BOILING POINT	212F / 100C
FREEZING POINT	32F / 0C
SOLUBILITY IN WATER	100%
SPECIFIC GRAVITY	1.05
FLAMMABILITY	Not Flammable
MELTING POINT	32F (0C)
FLASH POINT	>212F (>100C) P-M (CC)
EVAPORATING RATE	<1 (Ether=1)
PARTITION COEFFICIENT	No data
AUTO IGNITION TEMP	No data
DECOMPOSITION TEMP	No data
VISCOSITY	No data

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: The product is stable and non-reactive under normal conditions of use, storage, and transport.
STABILITY: Stable
CONDITIONS TO AVOID: Repeated freeze-thaw cycles
MATERIALS TO AVOID: None established
HAZARDOUS DECOMPOSITION PRODUCT: None

SECTION 11: TOXICOLOGICAL INFORMATION

Contact with eyes: May cause slight redness, irritation, and temporary discomfort
Skin: No effect.
Ingestion: No effect
Inhalation: Inhalation in large amounts may cause slight irritation of respiratory passages
Toxicological information: No data

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND DISTRIBUTION: Product is removed from water by sedimentation or binding to sewage sludge. In soil, product is degraded.
ECOTOXICITY EFFECTS: No adverse effects on aquatic organisms
BIOACCUMULATION: No bioaccumulation potential
FATE AND EFFECTS IN WASTE WATER TREATMENT PLANTS: Removed >95% by binding onto sewage sludge. No adverse effects on bacteria. This product does not contribute to the BOD.
ADDITIONAL ENVIRONMENTAL INFORMATION: None

SECTION 13: DISPOSAL CONSIDERATION

PRODUCT DISPOSAL: Dispose of in accordance with local/regional/national/international regulations.
PACKAGING DISPOSAL: Dispose of in accordance with local regulations.
When a decision is made to discard this material, as received, is it classified as a hazardous waste? : No

SECTION 14: TRANSPORTATION INFORMATION

ROAD/ RAIL (ADR/RID): Not subject to ADR/RID
SEA TRANSPORT (IMDG): Not subject to IMDG code
AIR TRANSPORT (IATA): Not subject to IATA regulation

SECTION 15: REGULATORY INFORMATION

NATIONAL LEGISLATION/ REGULATIONS
OZONE DEPLETING CHEMICALS: No ozone depleting chemicals are present or used in manufacture

STATUS

IECSC: All ingredients listed or exempt
EINECS: All ingredients listed, exempt, or notified (ELINCS)
KECL: All ingredients listed, exempt, or notified
PICCS: All ingredients listed, exempt, or notified
DSL: All ingredients listed, exempt, or notified
TSCA: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances

SECTION 16: OTHER INFORMATION

Prepared- 01/26/2016
Last revision- 08/11/2016

It is the responsibility of persons in receipt of this Safety Data Sheet to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces a formulation containing the Aero Cosmetic product, it is the recipient's sole responsibility to
Ensure the transfer of all relevant information from the Aero Cosmetic Safety Data Sheet to their own Safety Data Sheet.

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. Aero Cosmetics shall not be held responsible for any defect in the product covered by this SDS, should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.

MATERIAL SAFETY DATA SHEET

MSDS FORMAT MEETS ANSI Z400.1-1993

Aero Cosmetics No. 787

SECTION 1: IDENTIFICATION

PART NUMBER	787
PRODUCT NAME	Wash Wax ALL Degreaser
MSDS REVISION NUMBER	3
DATE OF PREPARATION OR REVISION	Jan 18, 2014
RECOMMENDED USE	Aircraft, Marine, and Automotive Multi Surface Cleaner/ Protector

MANUFACTURER INFORMATION

Aero Cosmetics Products, LLC
PO Box 460025
San Antonio, TX 78246
EMERGENCY: 1-800-927-4929

SECTION 2: COMPOSITION, INFORMATION or INGREDIENTS

CHEMICAL CHARACTERRIZATION: Water based, surfactant / polymer emulsion
HAZARDOUS INGREDIENTS: Product does not contain hazardous ingredients**.**

SECTION 3: HAZARD IDENTIFICATION

PRODUCT CONTAINS NO HAZARDOUS INGREDIENTS- product is not hazardous according to council directive 1999/45/EC and its subsequent amendments

POTENTIAL HEALTH EFFECTS

Contact with eyes: May cause slight redness or irritation
Skin: No effect.
Ingestion: No effect
Inhalation: No effect.
Carcinogen Data: None of the ingredients in the product are listed with OSHA, IARP, or NTP as being carcinogenic.

SECTION 4: FIRST AID MEASURES

EYE: Flush with fresh water
SKIN: No first aid needed. Rinse Skin with water
INGESTION: If product is ingested rinse mouth. If you feel unwell, get medical attention.
INHALATION: Low inhalation risk. Remove person to fresh air.

SECTION 5: FIRE FIGHTING MEASURES

MATERIAL IS CONSIDERED A NON-FLAMMABLE LIQUID
EXTINGUISHING MEDIA: co2, dry chemical, universal aqueous film forming foam, or water
SPECIAL FIRE FIGHTING PROCEDURES: NONE
FIRE AND EXPLOSION HAZARDS: NONE

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL CLEANUP: absorb material to be collected and contain for disposal
WASTE DISPOSAL METHOD: Mop, wipe, or soak up with absorbent material and place in container. Check local ordinances for acceptable PH of discharge water and throw away material used to absorb spill

SECTION 7: HANDLING AND STORAGE

Keep from freezing and extreme heat. As with all chemicals- keep out of the reach of children. Avoid contact with eyes.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

EXPOSURE GUIDELINES: product is a non-hazardous mixture, exposure value not available
SKIN PROTECTION: no special protection needed
EYE PROTECTION: eye contact is not expected with normal use, but safety glasses with side shields are recommended as a minimum for any type of chemical handling.
RESPIRATORY PROTECTION: none needed

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Red milky liquid
ODOR	None
PHYSICAL STATE	liquid
pH	9-9.3
VAPOR PRESSURE	@212 F 14.7psia
VAPOR DENSITY	0.622
BOILING POINT	212F / 100C
FREEZING POINT	32F / 0C
SOLUBILITY IN WATER	100%
SPECIFIC GRAVITY	1.05

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: This material is considered to be non-reactive
STABILITY: Stable
CONDITIONS TO AVOID: Repeated freeze-thaw cycles
MATERIALS TO AVOID: None
HAZARDOUS DECOMPOSITION PRODUCT: None

SECTION 11: TOXICOLOGICAL INFORMATION

Contact with eyes: May cause slight redness, irritation, and temporary discomfort
Skin: No effect.
Ingestion: No effect
Inhalation: Inhalation in large amounts may cause slight irritation of respiratory passages
No known applicable toxicological information

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND DISTRIBUTION: product is removed from water by sedimentation or binding to sewage sludge. In soil, product is degraded.

ECOTOXICITY EFFECTS: No adverse effects on aquatic organisms

BIOACCUMULATION: No bioaccumulation potential

FATE AND EFFECTS IN WASTE WATER TREATMENT PLANTS: removed >95% by binding onto sewage sludge. No adverse effects on bacteria. This product does not contribute to the BOD.

ADDITIONAL ENVIRONMENTAL INFORMATION: None

SECTION 13: DISPOSAL CONSIDERATION

PRODUCT DISPOSAL: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste water disposal authorities.

PACKAGING DISPOSAL: Dispose of in accordance with local regulations. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

When a decision is made to discard this material, as received, is it classified as a hazardous waste? : NO

SECTION 14: TRANSPORTATION INFORMATION

ROAD/ RAIL (ADR/RID): Not subject to ADR/RID
SEA TRANSPORT (IMDG): Not subject to IMDG code
AIR TRANSPORT (IATA): Not subject to IATA regulation

SECTION 15: REGULATORY INFORMATION

LABELING ACCORDING TO EEC DIRECTIVE
S-PHRASES: None
NATIONAL LEGISLATION/ REGULATIONS
OZONE DEPLETING CHEMICALS: No ozone depleting chemicals are present or used in manufacture

STATUS

IECSC: All ingredients listed or exempt
EINECS: All ingredients listed, exempt, or notified (ELINCS)
KECL: All ingredients listed, exempt, or notified
PICCS: All ingredients listed, exempt, or notified
DSL: All ingredients listed, exempt, or notified
TSCA: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances

SECTION 16: OTHER INFORMATION

This Material Safety Data Sheet was prepared in compliance with Commission Directive 9/15/EEC, 67/548/EEC and 1999/45/EC as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labeling of dangerous substances and preparations.

It is the responsibility of persons in receipt of this Material Safety Data Sheet to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces a formulation containing the Aero Cosmetic product, it is the recipient's sole responsibility to
Ensure the transfer of all relevant information from the Aero Cosmetic Material Safety Data Sheet to their own Material Safety Data Sheet in compliance with Commission Directive 1999/45/EC.

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS. Aero Cosmetics shall not be held responsible for any defect in the product covered by this MSDS, should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.

As stated above, this Material Safety Data Sheet has been prepared in compliance with applicable European law. If you purchase this material outside Europe, where compliance laws may differ, you should receive from your local Aero Cosmetic supplier a MSDS applicable to the country in which the product is sold and intended to be used. Please note that the appearance and content of the MSDS may vary – even for the same product – between different countries, reflecting the different compliance requirements. Should you have any questions, please refer to your local Aero Cosmetic supplier.

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

CORBUS # 00028273

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...RIAL SAFETY DATA SHEET
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I - PRODUCT AND PREPARATION INFORMATION

MANUFACTURER: RUST-OLEUM CORPORATION
ADDRESS: 11 HAWTHORN PARKWAY
VERNON HILLS, IL
60061

EMERGENCY AND INFORMATION
TELEPHONE: (847)367-7700

PRODUCT CLASS: EPOXY RESIN-WATERBASE
MANUFACTURERS CODE: 5344 SAFETY YELLOW
TRADE NAME: WATER-BASED EPOXY
DATE OF PREPARATION: JUNE 7, 1996 (DLC)

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT/CAS NO	WT%	EXPOSURE LIMITS ACGIH-TLV	OSHA-PEL	LEL	MM HG @ 20 C
EPOXY RESIN/ ##	30%#	25 PPM ###	NE	NA	NA
2-PROPOXYETHANOL/2807-30-9	4%	25 PPM ###	NE	1.3%	1.3
NI SOL 10/64742-95-6	3%	NE	100 PPM	1.0%	5.0
ETHYLENE GLYCOL PROPYL ETHER/ 2807-30-9	3%	NE	NE	NE	1.3

SUPPLIER'S TRADE SECRET
NEAREST 5%
SUPPLIER'S RECOMMENDATION

NE - NOT ESTABLISHED NA - NOT APPLICABLE

SECTION III - PHYSICAL DATA

BOILING RANGE: 212 - 350 F (100 - 177 C)
VAPOR DENSITY: HEAVIER THAN AIR
EVAPORATION RATE (ETHER=1): SLOWER
% VOLATILE (BY VOLUME): 63%
WT/GAL: 9.33 LBS.
VOC: < 340 G/L

...CTION IV - FIRE AND EXPLOSION HAZARDS

FLAMMABILITY CLASSIFICATION: OSHA CLASS II COMBUSTIBLE LIQUID
FLASHPOINT: 141 F (SETA)
DOT CLASSIFICATION: COMBUSTIBLE LIQUID PGIII

EXTINGUISHING MEDIA: NFPA CLASS B EXTINGUISHERS (CARBON DIOXIDE, DRY CHEMICAL OR FOAM).

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS, SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOSION. IF WATER IS USED, FOG NOZZLES ARE PREFERRED.

UNUSUAL FIRE AND EXPLOSION HAZARDS: KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. DO NOT APPLY TO HOT SURFACES.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
ACUTE (INHALATION): HARMFUL IF INHALED. MAY AFFECT THE BRAIN AND NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. REPEATED OVEREXPOSURES MAY LEAD PROGRESSIVELY TO STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS OR COMA. CAUSES NOSE AND THROAT IRRITATION.

ACUTE (SKIN OR EYE CONTACT): CAUSES EYE AND SKIN IRRITATION WHICH MAY LEAD TO DERMATITIS WITH REPEATED OVEREXPOSURES. EPOXY RESIN MAY CAUSE ALLERGIC SKIN REACTION RESULTING IN RASH, HIVES, ITCHING OR SWELLING.

INGESTION: GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DIARRHEA.

CHRONIC: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. CONTAINS SOLVENTS WHICH MAY CAUSE INJURY TO BONE MARROW AND BLOOD CELLS WITH REPEATED OVEREXPOSURE.

EMERGENCY AND FIRST AID PROCEDURES:
FUMES: REMOVE FROM EXPOSURE, RESTORE BREATHING AND NOTIFY A PHYSICIAN.

SPRAY (EYES): FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. NOTIFY A PHYSICIAN.

SPLASH (SKIN): WASH AFFECTED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE. IF ALLERGY DEVELOPS, CONTACT A PHYSICIAN AND HAVE MSDS INFORMATION AVAILABLE.

INGESTION: DILUTE STOMACH CONTENTS WITH 2 GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING 2 FINGERS AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. NOTIFY A PHYSICIAN.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE.
INCOMPATIBLE: NOT APPLICABLE.
HAZARDOUS DECOMPOSITION PRODUCTS: BY FLAME - CARBON MONOXIDE AND CARBON DIOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION VII - SPILL OR LEAK PROCEDURES

RELEASE OR SPILL PROCEDURES: REMOVE ALL SOURCES OF IGNITION, VENTILATE AREA AND REMOVE WITH INERT ABSORBENT AND NONSPARKING TOOLS. WASH SPILL AREA WITH WATER AND FLUSH TO SEWER SERVICED BY WASTEWATER TREATMENT FACILITY.

WASTE DISPOSAL METHOD: DISPOSE OF ACCORDING TO LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: USE NIOSH APPROVED CHEMICAL CARTRIDGE RESPIRATOR (TC23C) TO REMOVE SOLID AIRBORNE PARTICLES OF OVERSPRAY AND ORGANIC VAPORS DURING SPRAY APPLICATION. IN CONFINED AREAS: USE NIOSH APPROVED SUPPLIED-AIR RESPIRATORS OR HOODS (TC19C).

EYE PROTECTION: USE SAFETY EYEWEAR DESIGNED TO PROTECT AGAINST SPLASH OF LIQUIDS.

OTHER PROTECTIVE EQUIPMENT: USE GLOVES TO PREVENT ABSORPTION THROUGH THE SKIN.

VENTILATION: PROVIDE GENERAL DILUTION OR LOCAL EXHAUST VENTILATION IN VOLUME AND PATTERN TO KEEP TLV OF HAZARDOUS INGREDIENTS BELOW ACCEPTABLE LIMITS.

SECTION IX - SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS: KEEP FROM FREEZING. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FOR STORAGE OF NFPA CLASS II COMBUSTIBLE LIQUIDS. EMPTY CONTAINERS MAY BE HAZARDOUS.

CALIFORNIA PROPOSITION 65 WARNING: THESE PRODUCTS ARE NOT KNOWN TO CONTAIN ANY CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

ITEM: 2CDU5 - Lubricant Aerosol w/Smart Straw 11

MSDS: B9386 **ORDER: 0136337910** **LP NUMBER: U858927445**

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - B9386

Associated Grainger Items
2CDU3, 2CDU4, 2CDU5, 2NV59, 3UM45, 3UM46, 3UM47, 4F349, 4GY82, 4GY86, 4HFZ4

WD-40(R*)

WD-40 COMPANY

MATERIAL SAFETY DATA SHEET

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: WD-40 COMPANY

ADDRESS:
1061 CUDAHY PLACE (92110)
P.O. BOX 80607
SAN DIEGO, CALIFORNIA 92138-0607
USA

TELEPHONE:

EMERGENCY ONLY: 1-888-324-7596 (PROSAR)

INFORMATION: 1-888-324-7596

CHEMICAL SPILLS:
1-800-424-9300 (CHEMTREC)
1-703-527-3887 (INTERNATIONAL CALLS)

CHEMICAL NAME: ORGANIC MIXTURE

TRADE NAME: WD-40 AEROSOL

PRODUCT USE:
LUBRICANT, PENETRANT, DRIVES OUT MOISTURE, REMOVES AND PROTECTS SURFACES FROM CORROSION

MSDS DATE OF PREPARATION: 3/11/10

2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER!

FLAMMABLE AEROSOL. CONTENTS UNDER PRESSURE. HARMFUL OR FATAL IF SWALLOWED. IF SWALLOWED, MAY BE ASPIRATED AND CAUSE LUNG DAMAGE. MAY CAUSE EYE IRRITATION. AVOID EYE CONTACT. USE WITH ADEQUATE VENTILATION. KEEP AWAY FROM HEAT, SPARKS AND ALL OTHER SOURCES OF IGNITION.

SYMPTOMS OF OVEREXPOSURE:

INHALATION:
HIGH CONCENTRATIONS MAY CAUSE NASAL AND RESPIRATORY IRRITATION AND CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS HEADACHE, DIZZINESS AND NAUSEA. INTENTIONAL ABUSE MAY BE HARMFUL OR FATAL.

SKIN CONTACT:
PROLONGED AND/OR REPEATED CONTACT MAY PRODUCE MILD IRRITATION AND DEFATTING WITH POSSIBLE DERMATITIS.

EYE CONTACT: CONTACT MAY BE IRRITATING TO EYES. MAY CAUSE REDNESS AND TEARING.

INGESTION:
THIS PRODUCT HAS LOW ORAL TOXICITY. SWALLOWING MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DIARRHEA. THIS PRODUCT IS AN ASPIRATION HAZARD. IF SWALLOWED, CAN ENTER THE LUNGS AND MAY CAUSE CHEMICAL PNEUMONITIS, SEVERE LUNG DAMAGE AND DEATH.

CHRONIC EFFECTS: NONE EXPECTED.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PREEXISTING EYE, SKIN AND RESPIRATORY CONDITIONS MAY BE AGGRAVATED BY EXPOSURE.

SUSPECTED CANCER AGENT:
YES ( )
NO (X)

3 - COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS #		WEIGHT PERCENT
ALIPHATIC HYDROCARBON	64742-47-8		45-50
PETROLEUM BASE OIL	64742-58-1 64742-53-6 64742-56-9 64742-65-0		<25
LVP ALIPHATIC HYDROCARBON	64742-47-8	12-18	
CARBON DIOXIDE	124-38-9		2-3
SURFACTANT	PROPRIETARY		<2
NON-HAZARDOUS INGREDIENTS	MIXTURE		<10

4 - FIRST AID MEASURES

INGESTION (SWALLOWED):
ASPIRATION HAZARD. DO NOT INDUCE VOMITING. CALL PHYSICIAN, POISON CONTROL CENTER OR THE WD-40 SAFETY HOTLINE AT 1-888-324-7596 IMMEDIATELY.

EYE CONTACT:
FLUSH THOROUGHLY WITH WATER. REMOVE CONTACT LENSES IF PRESENT AFTER THE FIRST 5 MINUTES AND CONTINUE FLUSHING FOR SEVERAL MORE MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN CONTACT:
WASH WITH SOAP AND WATER. IF IRRITATION DEVELOPS AND PERSISTS, GET MEDICAL ATTENTION.

INHALATION (BREATHING):
IF IRRITATION IS EXPERIENCED, MOVE TO FRESH AIR. GET MEDICAL ATTENTION IF IRRITATION OR OTHER SYMPTOMS DEVELOP AND PERSIST.

5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:
USE WATER FOG, DRY CHEMICAL, CARBON DIOXIDE OR FOAM. DO NOT USE WATER JET OR FLOODING AMOUNTS OF WATER. BURNING PRODUCT WILL FLOAT ON THE SURFACE AND SPREAD FIRE.

SPECIAL FIRE FIGHTING PROCEDURES:
FIREFIGHTERS SHOULD ALWAYS WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. COOL FIRE-EXPOSED CONTAINERS WITH WATER. USE SHIELDING TO PROTECT AGAINST BURSTING CONTAINERS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
CONTENTS UNDER PRESSURE. KEEP AWAY FROM IGNITION SOURCES AND OPEN FLAMES. EXPOSURE OF CONTAINERS TO EXTREME HEAT AND FLAMES CAN CAUSE THEM TO RUPTURE OFTEN WITH VIOLENT FORCE. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG SURFACES TO REMOTE IGNITION SOURCES AND FLASH BACK.

6 - ACCIDENTAL RELEASE MEASURES

WEAR APPROPRIATE PROTECTIVE CLOTHING (SEE SECTION 8). ELIMINATE ALL SOURCES OF IGNITION AND VENTILATE AREA. LEAKING CANS SHOULD BE PLACED IN A PLASTIC BAG OR OPEN PAIL UNTIL THE PRESSURE HAS DISSIPATED. CONTAIN AND COLLECT LIQUID WITH AN INERT ABSORBENT AND PLACE IN A CONTAINER FOR DISPOSAL. CLEAN SPILL AREA THOROUGHLY. REPORT SPILLS TO AUTHORITIES AS REQUIRED.

7 - HANDLING AND STORAGE

HANDLING:
AVOID CONTACT WITH EYES. AVOID PROLONGED CONTACT WITH SKIN. AVOID BREATHING VAPORS OR AEROSOLS. USE ONLY WITH ADEQUATE VENTILATION. KEEP AWAY FROM HEAT, SPARKS, PILOT LIGHTS, HOT SURFACES AND OPEN FLAMES. UNPLUG ELECTRICAL TOOLS, MOTORS AND APPLIANCES BEFORE SPRAYING OR BRINGING THE CAN NEAR ANY SOURCE OF ELECTRICITY. ELECTRICITY CAN BURN A HOLE IN THE CAN AND CAUSE CONTENTS TO BURST INTO FLAMES. TO AVOID SERIOUS BURN INJURY, DO NOT LET THE CAN TOUCH BATTERY TERMINALS, ELECTRICAL CONNECTIONS ON MOTORS OR APPLIANCES OR ANY OTHER SOURCE OF ELECTRICITY. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. KEEP CONTAINERS CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. DO NOT PUNCTURE, CRUSH OR INCINERATE CONTAINERS, EVEN WHEN EMPTY.

STORAGE:
STORE IN A COOL, WELL-VENTILATED AREA, AWAY FROM INCOMPATIBLE MATERIALS DO NOT STORE ABOVE 120 DEG. F OR IN DIRECT SUNLIGHT. U.F.C (NFPA 30B) LEVEL 3 AEROSOL.

8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL	OCCUPATIONAL EXPOSURE LIMITS
ALIPHATIC HYDROCARBON	1200 MG/M3 TWA (MANUFACTURER RECOMMENDED)
PETROLEUM BASE OIL	5 MG/M3 TWA, 10 MG/M3 STEL ACGIH TLV 5 MG/M3 TWA OSHA PEL
LVP ALIPHATIC HYDROCARBON	1200 MG/M3 TWA (MANUFACTURER RECOMMENDED)
CARBON DIOXIDE	5000 PPM TWA (OSHA/ACGIH), 30,000 PPM STEL (ACGIH)
SURFACTANT	NONE ESTABLISHED
NON-HAZARDOUS INGREDIENTS	NONE ESTABLISHED

THE FOLLOWING CONTROLS ARE RECOMMENDED FOR NORMAL CONSUMER USE OF THIS PRODUCT:

ENGINEERING CONTROLS: USE IN A WELL-VENTILATED AREA.

PERSONAL PROTECTION:

EYE PROTECTION: AVOID EYE CONTACT. ALWAYS SPRAY AWAY FROM YOUR FACE.

SKIN PROTECTION:
AVOID PROLONGED SKIN CONTACT. CHEMICAL RESISTANT GLOVES RECOMMENDED FOR OPERATIONS WHERE SKIN CONTACT IS LIKELY.

RESPIRATORY PROTECTION: NONE NEEDED FOR NORMAL USE WITH ADEQUATE VENTILATION.

FOR BULK PROCESSING OR WORKPLACE USE THE FOLLOWING CONTROLS ARE RECOMMENDED:

ENGINEERING CONTROLS:
USE ADEQUATE GENERAL AND LOCAL EXHAUST VENTILATION TO MAINTAIN EXPOSURE LEVELS BELOW THAT OCCUPATIONAL EXPOSURE LIMITS.

PERSONAL PROTECTION:

EYE PROTECTION: SAFETY GOGGLES RECOMMENDED WHERE EYE CONTACT IS POSSIBLE.

SKIN PROTECTION: WEAR CHEMICAL RESISTANT GLOVES.

RESPIRATORY PROTECTION:

NONE REQUIRED IF VENTILATION IS ADEQUATE. IF THE OCCUPATIONAL EXPOSURE LIMITS
ARE EXCEEDED, WEAR A NIOSH APPROVED RESPIRATOR. RESPIRATOR SELECTION AND USE SHOULD BE BASED ON CONTAMINANT TYPE, FORM AND CONCENTRATION. FOLLOW OSHA 1910.134, ANSI Z88.2 AND GOOD INDUSTRIAL HYGIENE PRACTICE.

WORK/HYGIENE PRACTICES: WASH WITH SOAP AND WATER AFTER HANDLING.

9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 361 - 369 DEG. F (183 - 187 DEG. C)

SPECIFIC GRAVITY: 0.8 - 0.82 @ 60 DEG. F

SOLUBILITY IN WATER: INSOLUBLE

pH: NOT APPLICABLE

VAPOR PRESSURE: 95 - 115 PSI @ 70 DEG. F

VAPOR DENSITY: GREATER THAN 1

PERCENT VOLATILE: 70 - 75%

VOC: 412 GRAMS/LITER (49.5%)

COEFFICIENT OF WATER/OIL DISTRIBUTION: NOT DETERMINED

APPEARANCE/ODOR: LIGHT AMBER LIQUID/MILD ODOR

FLASH POINT: 122 DEG. F (49 DEG. C) TAG OPEN CUP (CONCENTRATE)

FLAMMABLE LIMITS (SOLVENT PORTION):
LEL: 0.6%
UEL: 8.0%

POUR POINT: -63 DEG. C (-81.4 DEG. F) ASTM D-97

KINEMATIC VISCOSITY: 2.79 - 2.96 CST @ 100 DEG. F

10 - STABILITY AND REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

CONDITIONS TO AVOID:
AVOID HEAT, SPARKS, FLAMES AND OTHER SOURCES OF IGNITION. DO NOT PUNCTURE OR INCINERATE CONTAINERS.

INCOMPATIBILITIES: STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND CARBON DIOXIDE.

11 - TOXICOLOGICAL INFORMATION

THE ORAL TOXICITY OF THIS PRODUCT IS ESTIMATED TO BE GREATER THAN 5,000 MG/KG BASED ON AN ASSESSMENT OF THE INGREDIENTS. THIS PRODUCT IS NOT CLASSIFIED AS TOXIC BY ESTABLISHED CRITERIA. IT IS AN ASPIRATION HAZARD.

NONE OF THE COMPONENTS OF THIS PRODUCT IS LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN OR IS CONSIDERED A REPRODUCTIVE HAZARD.

12 - ECOLOGICAL INFORMATION

NO DATA IS CURRENTLY AVAILABLE.

13 - DISPOSAL CONSIDERATIONS

IF THIS PRODUCT BECOMES A WASTE, IT WOULD BE EXPECTED TO MEET THE CRITERIA OF A RCRA IGNITABLE HAZARDOUS WASTE (D001). HOWEVER, IT IS THE RESPONSIBILITY OF THE GENERATOR TO DETERMINE AT THE TIME OF DISPOSAL THE PROPER CLASSIFICATION AND METHOD OF DISPOSAL. DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

14 - TRANSPORTATION INFORMATION

DOT SURFACE SHIPPING DESCRIPTION: CONSUMER COMMODITY, ORM-D

IMDG SHIPPING DESCRIPTION: UN1950, AEROSOLS, 2.1, LTD QTY

15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 REPORTABLE QUANTITY:
THIS PRODUCT IS NOT SUBJECT TO CERCLA REPORTING REQUIREMENTS, HOWEVER, OIL SPILLS ARE REPORTABLE TO THE NATIONAL RESPONSE CENTER UNDER THE CLEAN WATER ACT AND MANY STATES HAVE MORE STRINGENT RELEASE REPORTING REQUIREMENTS. REPORT SPILLS REQUIRED UNDER FEDERAL, STATE AND LOCAL REGULATIONS.

SARA TITLE III:

HAZARD CATEGORY FOR SECTION 311/312:
ACUTE HEALTH, FIRE HAZARD, SUDDEN RELEASE OF PRESSURE

SECTION 313 TOXIC CHEMICALS:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO SARA TITLE III:
SECTION 313 REPORTING REQUIREMENTS: NONE
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (TPQ): NONE

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:
ALL OF THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
THIS PRODUCT DOES NOT CONTAIN CHEMICALS REGULATED UNDER CALIFORNIA PROPOSITION
65.

VOC REGULATIONS:
THIS PRODUCT COMPLIES WITH THE CONSUMER PRODUCT VOC LIMITS OF CARB, THE US EPA AND STATES ADOPTING THE OTC VOC RULES.

CANADIAN ENVIRONMENTAL PROTECTION ACT:
ONE OF THE COMPONENTS IS LISTED ON THE NDSL. ALL OF THE OTHER INGREDIENTS ARE LISTED ON THE CANADIAN DOMESTIC SUBSTANCES LIST OR EXEMPT FROM NOTIFICATION.

CANADIAN WHMIS CLASSIFICATION: CLASS B-5 (FLAMMABLE AEROSOL)

THIS MSDS HAS BEEN PREPARED ACCORDING TO THE CRITERIA OF THE CONTROLLED PRODUCTS REGULATION (CPR) AND THE MSDS CONTAINS ALL OF THE INFORMATION REQUIRED BY THE CPR.

16 - OTHER INFORMATION

HMIS HAZARD RATING:
HEALTH 1 (SLIGHT HAZARD)
FIRE HAZARD 4 (SEVERE HAZARD)
REACTIVITY 0 (MINIMAL HAZARD)

SIGNATURE:

TITLE: DIRECTOR OF GLOBAL QUALITY ASSURANCE

REVISION DATE: MARCH 2010

SUPERSEDES: AUGUST 2009
AL AND INHALATION
STUDIES SHOWED MINIMAL EFFECTS; LUNG NON-SPECIFIC INFILTRATION OF IMMUNE CELLS, OIL DEPOSITION AND MINIMAL GRANULOMA FORMATION. NOT SENSITIZING IN TEST ANIMALS.

C.I. SOLVENT BLUE: POSITIVE IN THE AMES AND MOUSE LYMPHOMA MUTAGENICITY ASSAY.

ADDITIONAL INFORMATION IS AVAILABLE BY REQUEST.

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW: NONE.

REGULATORY LISTS SEARCHED:
1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

THE INFORMATION GIVEN IS BASED ON DATA AVAILABLE FOR THE MATERIAL, THE COMPONENTS OF THE MATERIAL, AND SIMILAR MATERIALS.

ECOTOXICITY:
MATERIAL: NOT EXPECTED TO BE HARMFUL TO AQUATIC ORGANISMS.

MOBILITY:

BASE OIL COMPONENT:
LOW SOLUBILITY AND FLOATS AND IS EXPECTED TO MIGRATE FROM WATER TO THE LAND. EXPECTED TO PARTITION TO SEDIMENT AND WASTEWATER SOLIDS.

PERSISTENCE AND DEGRADABILITY:

BIODEGRADATION:
BASE OIL COMPONENT: EXPECTED TO BE INHERENTLY BIODEGRADABLE

BIOACCUMULATION POTENTIAL:

BASE OIL COMPONENT:
HAS THE POTENTIAL TO BIOACCUMULATE, HOWEVER METABOLISM OR PHYSICAL PROPERTIES MAY REDUCE THE BIOCONCENTRATION OR LIMIT BIOAVAILABILITY.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL RECOMMENDATIONS BASED ON MATERIAL AS SUPPLIED. DISPOSAL MUST BE IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND MATERIAL CHARACTERISTICS AT TIME OF DISPOSAL.

DISPOSAL RECOMMENDATIONS:
PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION AT VERY HIGH TEMPERATURES TO PREVENT FORMATION OF UNDESIRABLE COMBUSTION PRODUCTS.

REGULATORY DISPOSAL INFORMATION:

RCRA INFORMATION:
THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED AS HAZARDOUS WASTES. IT DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSITIVITY OR REACTIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

EMPTY CONTAINER WARNING:

EMPTY CONTAINER WARNING (WHERE APPLICABLE):
EMPTY CONTAINERS MAY CONTAIN RESIDUE AND CAN BE DANGEROUS. DO NOT ATTEMPT TO REFILL OR CLEAN CONTAINERS WITHOUT PROPER INSTRUCTIONS. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED AND SAFELY STORED UNTIL APPROPRIATELY RECONDITIONED OR DISPOSED. EMPTY CONTAINERS SHOULD BE TAKEN FOR RECYCLING, RECOVERY, OR DISPOSAL THROUGH SUITABLY QUALIFIED OR LICENSED CONTRACTOR AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): NOT REGULATED FOR LAND TRANSPORT

LAND (TDG): NOT REGULATED FOR LAND TRANSPORT

SEA (IMDG): NOT REGULATED FOR SEA TRANSPORT ACCORDING TO IMDG-CODE

AIR (IATA): NOT REGULATED FOR AIR TRANSPORT

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD:
WHEN USED FOR ITS INTENDED PURPOSES, THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS IN ACCORDANCE WITH OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, KINECS, ENCS, PICCS, TSCA

SPECIAL CASES:

INVENTORY	STATUS
KECI	RESTRICTIONS APPLY
NDSL	RESTRICTIONS APPLY

EPCRA: THIS MATERIAL CONTAINS NO EXTREMELY HAZARDOUS SUBSTANCES.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: NONE.

SARA (313) TOXIC RELEASE INVENTORY:

CHEMICAL NAME	CAS NUMBER	TYPICAL VALUE
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	<2.5%

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
DIPHENYLAMINE	122-39-4	5, 18
NAPHTHENIC ACIDS, ZINC SALTS	12001-85-3	15
XYLENES	1330-20-7	5, 15
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	13, 15, 17
ZINC NEODECANOATE	27253-29-8	15

REGULATORY LISTS SEARCHED:
1 = ACGIH ALL
2 = ACGIH A1
3 = ACGIH A2
4 = OSHA Z
5 = TSCA 4
6 = TSCA 5A2
7 = TSCA 5B
8 = TSCA 6
9 = TSCA 12B
10 = CA P65 CARC
11 = CA P65 REPRO
12 = CA RTK
13 = IL RTK
14 = LA RTK
15 = MI 293
16 = MN RTK
17 = NJ RTK
18 = PA RTK
19 = RI RTK

CODE KEY:
CARC=CARCINOGEN
REPRO=REPRODUCTIVE

SECTION 16 OTHER INFORMATION

N/D = NOT DETERMINED

N/A = NOT APPLICABLE

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

REVISION CHANGES:
SECTION 04: FIRST AID INHALATION - HEADER WAS MODIFIED.
SECTION 04: FIRST AID INGESTION - HEADER WAS MODIFIED.
SECTION 15: SPECIAL CASES TABLE WAS MODIFIED.

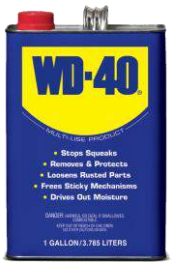
INTERNAL USE ONLY:

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A

DGN: 20061531US (550268)

Safety Data Sheet



1 - Chemical Product and Company Identification

Trade Name: WD-40 Multi-Use Product Bulk Liquid ***NOT FOR SALE IN CALIFORNIA*** **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **MSDS Date Of Preparation: 8/25/15**	**Manufacturer: WD-40 Company** **Address: 1061 Cudahy Place (92110)** **P.O. Box 80607** **San Diego, California, USA** **92138 –0607** **Telephone:** **Emergency only: 1-888-324-7596 (PROSAR)** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Liquid Category 3
Aspiration Toxicity Category 1

Note: The 1 gallon size product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to larger containers sold for industrial/professional use.

Label Elements:

DANGER!
Flammable liquid and vapor.
May be fatal if swallowed and enters airways.

Prevention
Keep away from heat, sparks, open flames, hot surfaces – No smoking.
Keep container tightly closed.
Ground and bond containers and receiving equipment.
Use explosion-proof electrical equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear eye protection.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician.
Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
In case of fire: Use water fog, dry chemical, carbon dioxide or foam to extinguish.

Storage
Store locked up.
Store in a well-ventilated place. Keep cool.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	GHS Classification
Aliphatic Hydrocarbon	64742-47-8	45-50	Flammable Liquid Category 3 Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35	Not Hazardous
LVP Aliphatic Hydrocarbon	64742-47-8	12-18	Aspiration Toxicity Category 1

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: May cause eye and respiratory irritation. Inhalation may cause coughing, headache and dizziness. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Combustible liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class II Liquid.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 (inhalable) TWA ACGIH TLV

	5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Odor:	Mild petroleum odor	Vapor Pressure:	1 psi @38°C (100°F) ASTM D323
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	122°F (49°C) Tag Open Cup	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Not Applicable	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	412 grams/liter (49.5%)	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.
Incompatibilities: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Component are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information_

DOT Surface Shipping Description: Excepted from Hazmat (49CFR 173.150 (F)) in non-bulk packagings. Bulk Packagings: UN1268, Petroleum Distillates, n.o.s., Combustible Liquid, PG III
IMDG Shipping Description: UN1268, Petroleum Distillates, n.o.s. 3, PG III
ICAO Shipping Description: UN1268, Petroleum Distillates, n.o.s. 3, PG III NOTE: WD-40 does not test containers to assure that they meet the pressure differential and other requirements for transport by air. We do not recommend that our products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class B-3 (Combustible Liquid)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

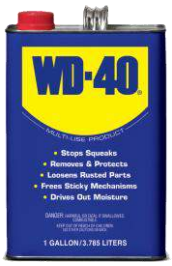
HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Reactivity – 0 (minimal hazard)

Revision Date: August 2015 Supersedes: July 2014

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Department

3069000/No.0015106



Safety Data Sheet

1 - Chemical Product and Company Identification

Trade Name: WD-40 Multi-Use Product Bulk Liquid ***NOT FOR SALE IN CALIFORNIA*** **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **MSDS Date Of Preparation: 8/25/15**	**Manufacturer: WD-40 Company** **Address: 1061 Cudahy Place (92110)** **P.O. Box 80607** **San Diego, California, USA** **92138 –0607** **Telephone:** **Emergency only: 1-888-324-7596 (PROSAR)** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Liquid Category 3
Aspiration Toxicity Category 1

Note: The 1 gallon size product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to larger containers sold for industrial/professional use.

Label Elements:

DANGER!
Flammable liquid and vapor.
May be fatal if swallowed and enters airways.

Prevention
Keep away from heat, sparks, open flames, hot surfaces – No smoking.
Keep container tightly closed.
Ground and bond containers and receiving equipment.
Use explosion-proof electrical equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear eye protection.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician.
Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
In case of fire: Use water fog, dry chemical, carbon dioxide or foam to extinguish.

Storage
Store locked up.
Store in a well-ventilated place. Keep cool.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	GHS Classification
Aliphatic Hydrocarbon	64742-47-8	45-50	Flammable Liquid Category 3 Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35	Not Hazardous
LVP Aliphatic Hydrocarbon	64742-47-8	12-18	Aspiration Toxicity Category 1

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: May cause eye and respiratory irritation. Inhalation may cause coughing, headache and dizziness. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Combustible liquid and vapor. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use with adequate ventilation. Keep away from heat, sparks, hot surfaces and open flames. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. NFPA 30 Class II Liquid.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 (inhalable) TWA ACGIH TLV

	5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Safety glasses or goggles recommended.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Odor:	Mild petroleum odor	Vapor Pressure:	1 psi @38°C (100°F) ASTM D323
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	122°F (49°C) Tag Open Cup	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas)	Not Applicable	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	412 grams/liter (49.5%)	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition.
Incompatibilities: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Component are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

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SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class B-3 (Combustible Liquid)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

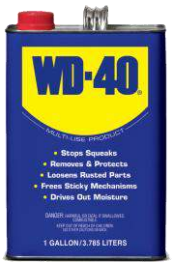
HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Reactivity – 0 (minimal hazard)

Revision Date: August 2015 Supersedes: July 2014

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Department

3069000/No.0015106



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DANGER!
Flammable liquid and vapor.
May be fatal if swallowed and enters airways.

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Keep container tightly closed.
Ground and bond containers and receiving equipment.
Use explosion-proof electrical equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear eye protection.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician.
Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
In case of fire: Use water fog, dry chemical, carbon dioxide or foam to extinguish.

Storage
Store locked up.
Store in a well-ventilated place. Keep cool.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	GHS Classification
Aliphatic Hydrocarbon	64742-47-8	45-50	Flammable Liquid Category 3 Aspiration Toxicity Category 1
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Note: The specific chemical identity and exact percentages are a trade secret.

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Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
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Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available, however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Component are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

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HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 2 (moderate hazard), Reactivity – 0 (minimal hazard)

Revision Date: August 2015 Supersedes: July 2014

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

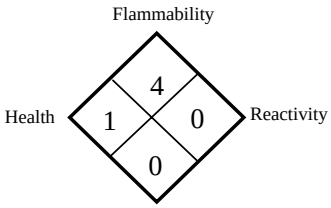
Reviewed by: I. Kowalski Regulatory Affairs Department

3069000/No.0015106

WALTER
Surface Technologies

MATERIAL SAFETY DATA SHEET
L-10E

NFPA Hazard Rating



0 = Minimum 1 = Light 2 = Moderate 3 = Serious 4 = Extreme

Section 1 - Product Identification

J. WALTER COMPANY LTD.
5977 Transcanada Highway
Pointe-Claire, Quebec
H9R 1C1
Emergency: CANUTEC (613) 996-6666

Trade name: **Spatter Block**
Product name: Weld spatter release
Order no.: 53-F 002
WHMIS Classification: B5
Controlled under WHMIS: Yes

Section 2 - Hazardous Ingredients

Ingredients	CAS Number	% by Weight	LD_{50}RAT	LC_{50}RAT
Dimethylether (propellant)	115-10-6	30-50	N/Av	N/Av

Section 3 - Physical / Chemical Characteristics

Physical state: Aerosol
pH: 7,5
Specific gravity: 0.84 g/ml @ 20ºC
Evaporation rate: Slow

Odour & appearance: Barely perceptible odour, Pale green.
Boiling point: N/A
Vapour pressure: 6600 hPa
VOC g/l: 310

Odour threshold: N/Av
Freezing point: N/A
Vapour density: N/Av
Water solubility: Miscible

Section 4 - Fire & Explosion Hazard

Flammability: Yes ***Conditions:*** *Source of ignition*
Flashpoint: -41ºC c.c (propellant)
Auto ignition temperature: 350ºC (propellant)
Flammable limits (%): Upper: 18.6 Lower: 2.7

Extinguishing media: CO_2, dry chemical, foam.
Hazardous combustion products: Incombustion emits toxic fumes of carbon dioxide and carbon monoxide.
Sensitivity to mechanical impact or static discharge: No

Section 5 - Reactivity Data

Chemical stability: Yes
Conditions: *None*
Reactivity conditions: None
Incompatible substances: Oxidizing agents
Hazardous decomposition products: Incombustion emits toxic fumes of carbon dioxide and carbon monoxide.

N/A - Not Applicable **N/Av - Not Available**

WALTER Surface Technologies

MATERIAL SAFETY DATA SHEET
L-10E

Section 6 - Toxicological Data

Route of entry: Skin and eye contact, inhalation, ingestion.
Acute exposure effects: Inhalation may cause drowsiness.
Chronic exposure effects: Prolonged contact may cause skin and eye irritation.
Exposure limits (TLV/TWA):

Carcinogenicity	Mutagenicity	Reproductive toxicity	Teratogenicity	Synergistic effects
No	No	No	No	No

If yes to any of the above, specify:

Section 7 - Preventive Measures

Protective equipment: Eyewear, gloves
Handling procedures: Follow package instructions.
Waste disposal methods: Dispose as per municipal, provincial and federal regulations.
Leak/spill procedures: Wipe up with an absorbent material.
Storage requirements: Store at temperatures below 50ºC.
Engineering controls: Provide adequate ventilation.
Handling equipment: Store in a well ventilated area.
Special shipping information: Aerosol, Class 2.1, UN1950

Section 8 - First Aid Measures

Skin contact: Rinse thoroughly with plenty of water until substance is off skin.
Eye contact: Rinse thoroughly with plenty water. Consult a physician if necessary.
Inhalation: Remove victim to fresh air. Do not give stimulative products. Consult a physician if necessary.
Ingestion: Do not induce vomiting. Do not give stimulative products. Consult a physician if necessary.
Other: N/A

Section 9 - Preparation of MSDS

Prepared by: International Product Manager - Chemical Tools
Telephone: 1-888-592-5837
Date: January 19th, 2010

This data is offered in good faith as typical values and not as a product specification. No warranty, either express or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

N/A - Not Applicable **N/Av - Not Available**

Safety Data Sheet: **² Ŝű {űŴǼǈ /ŧŜł·ÿŜŴ** ★

Version No. 13 Issue Date: July 31, 2015 Supersedes Date: September 13, 2014 *OSHA HCS-2012 / GHS*

Section 1: IDENTIFICATION

Product Name: ² Ŝű {űŴǼǈ /ŧŜł·ÿŜŴ
Additional Names:

Manufacturer's Part Number: *² {/*

Recommended Use: Cleaner & Degreaser for water tolerant surfaces.
Restrictions on Use: Do not use on non-rinsable surfaces.

Company:	a ł·Ŵōƻ ! ƳŜŴǼŎł· Ŀÿŏ	**Telephone:**	п0т-урт៣моол
	5нмл៣. {ƻdzű K hŴł·ÿ∃Ŝ !ǿŜ	**Fax:**	плт-урт-мопл
	hŴŧł·ÿŘƻ, C[онулф USA	**Email:**	Ƴł·Ŵōƻŏƻ űŜ Ɣ ! h[.com

Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 2: HAZARDS IDENTIFICATION

This product is not classified as hazardous under 2012 OSHA Hazard Communication Standards (29 CFR 1910.1200).

OSHA HCS 2012
Label Elements
Signal Word: None **Hazard Symbol(s)/Pictogram(s):** None required

Hazard Statements: None
Precautionary Statements: None
Hazards Not Otherwise Classified (HNOC): None
Other Information: None Known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent Range
Water	7732-18-5	> 84.8%*
Ethoxylated Alcohol	68439-46-3	< 5%*
Sodium Citrate	68-04-2	< 5%*
Tetrasodium *N,N*-bis(carboxymethyl)-L-glutamate	51981-21-6	< 1%*
Sodium Carbonate	497-19-8	< 1%*
Citric Acid	77-92-9	< 1%*
Isothiazolinone mixture	55965-84-9	< 0.2%*
Fragrance	Proprietary Mixture	< 1%*
Colorant	Proprietary Mixture	< 1%*

**specific percentages of composition are being withheld as a trade secret*

Section 4: FIRST-AID MEASURES

Inhalation: Not expected to cause respiratory irritation. If adverse effect occurs, move to fresh air.
Skin Contact: Not expected to cause skin irritation. If adverse effect occurs, rinse skin with water.
Eye Contact: Not expected to cause eye irritation. If adverse effect occurs, flush eyes with water.
Ingestion: May cause upset stomach. Drink plenty of water to dilute. See section 11.

Most Important Symptoms/Effects, Acute and Delayed: None known.

Indication of Immediate Medical Attention and Special Treatment Needed, if necessary: Treat symptomatically

Section 5: FIRE-FIGHTING MEASURES

Suitable & Unsuitable Extinguishing Media: Use Dry chemical, CO2, water spray or "alcohol" foam. Avoid high volume jet water.
Specific Hazards Arising from Chemical: In event of fire, fire created carbon oxides may be formed.
Special Protective Actions for Fire-Fighters: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

This product is non-flammable. See Section 9 for Physical Properties.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: *For non-emergency and emergency personnel:* See section 8 – personal protection. Avoid eye contact. Safety goggles suggested.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Methods and Materials for Containment and Clean Up: Dike or soak up with inert absorbent material. See section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling: Ensure adequate ventilation. Keep out of reach of children. Keep away from heat, sparks, open flame and direct sunlight. Do not pierce any part of the container. Do not mix or contaminate with any other chemical. Do not eat, drink or smoke while using this product.

Conditions for Safe Storage including Incompatibilities: Keep container tightly closed. Keep in cool dry area. Avoid prolonged exposure to sunlight. Do not store at temperatures above 109°F (42.7°C). If separation occurs, mix the product for reconstitution.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values: No components listed with TWA or STEL values under OSHA or ACGIH.

Appropriate Engineering Controls: Showers, eyewash stations, ventilation systems

Individual Protection Measures / Personal Protective Equipment (PPE)
Eye Contact: Use protective glasses or safety goggles if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas or local exhaust ventilations when cleaning small spaces.
Skin Contact: Use protective gloves (any material) when used for prolonged periods or dermally sensitive.
General Hygiene Considerations: Wash thoroughly after handling and before eating or drinking.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: .ťǳŜ Liquid
Odor: Added ǁl·ăYʎŷŜ odor
Odor Threshold: Not determined
pH ASTM D-1293**:** 8.5 – 9.5
Freezing Point ASTM D-1177**:** 0-3.33°C (32-38°F)
Boiling Point & Range ASTM D-1120**:** 101°C (213.8°F)
Flash Point ASTM D-93**:** > 212°F
Evaporation Rate ASTM D-1901**:** ½ Butyl Acetate @ 25°C
Flammability (solid, gas): Not applicable
Upper/Lower Flammability or Explosive Limits: Not applicable
Vapor Pressure ASTM D-323**:** 0.60 PSI @77°F, 2.05 PSI @100°F
Vapor Density: Not determined

Partition Coefficient: n-octanol/water: Not determined
Autoignition Temperature: Non-flammable
Decomposition Temperature: 109°F
Viscosity: Like water
Specific Gravity ASTM D-891**:** 1.01 – 1.03
VOCs: ***Water & fragrance exemption in calculation*

SCAQMD 304-91 / EPA 24:	0 g/L	0 lb/gal	0%
CARB Method 310**:	2.5 g/L	0.021 lb/gal	0.25%
SCAQMD Method 313:	Not tested		

VOC Composite Partial Pressure: Not determined
Relative Density ASTM D-4017**:** 8.34 – 8.42 lb/gal
Solubility: 100% in water

Section 10: STABILITY AND REACTIVITY

Reactivity: Non-reactive.
Chemical Stability: Stable under normal conditions 70°F (21°C) and 14.7 psig (760 mmHg).
Possibility of Hazardous Reactions: None known.
Conditions to Avoid: Excessive heat or cold.
Incompatible Materials: Do not mix with oxidizers, acids, bathroom cleaners, or disinfecting agents.
Hazardous Decomposition Products: Normal products of combustion - CO, CO2.

Section 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:
Inhalation - Overexposure may cause headache.
Skin Contact - Not expected to cause irritation, repeated contact may cause dry skin.
Eye Contact - Not expected to cause irritation.
Ingestion - May cause upset stomach.

Symptoms related to the physical, chemical and toxicological characteristics: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from short term exposure: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from long term exposure: headache, dry skin, or skin irritation may occur.
Interactive effects: Not known.

Numerical Measures of Toxicity

Acute Toxicity:
Oral LD_{50} (rat) > 5 g/kg body weight
Dermal LD_{50} (rabbit) > 5 g/kg body weight
Calculated via OSHA HCS 2012 / Globally Harmonized System of Classification and Labelling of Chemicals

Skin Corrosion/Irritation: Non-irritant per Dermal Irritection® assay modeling. No animal testing performed.
Eye Damage/Irritation: Minimal irritant per Ocular Irritection® assay modeling. No animal testing performed.
Germ Cell Mutagenicity: Mixture does not classify under this category.
Carcinogenicity: No ingredients trigger or classify under this category under NTP, IARC or OSHA.
Reproductive Toxicity: Mixture does not classify under this category.
STOT-Single Exposure: Mixture does not classify under this category.
STOT-Repeated Exposure: Mixture does not classify under this category.
Aspiration Hazard: Mixture does not classify under this category.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
Aquatic: Aquatic Toxicity - Low, based on OECD 201, 202, 203 + Microtox: EC_{50} & IC_{50} ≥100 mg/L. Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
Terrestrial: Not tested on finished formulation.

Persistence and Degradability: Readily Biodegradable per OCED 301D, Closed Bottle Test
Bioaccumulative Potential: No data available.
Mobility in Soil: No data available.
Other Adverse Effects: No data available.

Section 13: DISPOSAL CONSIDERATIONS

Unused or Used Liquid: May be considered hazardous in your area depending on usage and tonnage of disposal – check with local, regional, and or national regulations for appropriate methods of disposal.

Empty Containers: May be offered for recycling.

Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

Section 14: TRANSPORT INFORMATION

U.N. Number: Not applicable
U.N. Proper Shipping Name: Cleaning Compound, Liquid NOI
Transport Hazard Class(es): Not applicable
NMFC Number: 48580-3
Packing Group: Not applicable
Class: 55
Environmental Hazards: Marine Pollutant - NO
Transport in Bulk (according to Annex II of MARPOL 73/78 and IBC Code): Unknown.
Special precautions which user needs to be aware of/comply with, in connection with transport or conveyance either within or outside their premises: None known.

U.S. (DOT) / Canadian TDG: Not Regulated for shipping.
ICAO/ IATA: Not classified as Hazardous
IMO / IDMG: Not classified as Hazardous
ADR/RID: Not classified as Hazardous

Section 15: REGULATORY INFORMATION

All components are listed on: TSCA and DSL Inventory.

SARA Title III: Sections 311/312 Hazard Categories – Not applicable.
Sections 313 Superfunds Amendments and Reauthorizations Act of 1986 – Not applicable.
Sections 302 – Not applicable.

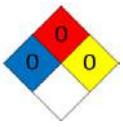
Clean Air Act (CAA): Not applicable
Clean Water Act (CWA): Not applicable

State Right To Know Lists: No ingredients listed
California Proposition 65: No ingredients listed
Texas ESL:

Ethoxylated Alcohol	68439-46-3	60 µg/m³ long term	600 µg/m³ short term
Sodium Citrate	68-04-2	5 µg/m³ long term	50 µg/m³ short term
Sodium Carbonate	497-19-8	5 µg/m³ long term	50 µg/m³ short term
Citric Acid	77-92-9	10 µg/m³ long term	100 µg/m³ short term

Section 16: OTHER INFORMATION

NFPA:
Health – None
Stability – Stable
Flammability – Non-flammable
Special - None



Acronyms

NTP	National Toxicology Program	IARC	International Agency for Research on Cancer
OSHA	Occupational Safety and Health Administration	CPSC	Consumer Product Safety Commission
TSCA	Toxic Substances Control Act	DSL	Domestic Substances List

Prepared / Revised By: a l·Nō2 ! Y ŜNŽŎl· Lyŏ
This SDS has been revised in the following sections: Section 16

DISCLAIMER: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

Issuing date 05-Jul-2015 **Revision Date** 05-Jul-2015 **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name Wet Strip Rinse

Other means of identification
Product Code WSR
Document

Recommended use of the chemical and restrictions on use
Recommended use All Purpose Cleaner

Details of the supplier of the safety data sheet
Distributor
Marbo America
5210-B South Orange Ave
Orlando, FL 32809

Emergency telephone number
24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300 (NORTH AMERICA)

Company Phone Number 1-407-857-1330

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Emergency Overview

Warning

Read label before use
If medical advice is needed, have product container or label at hand
Keep out of reach of children

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Translucent Green **Physical state** Liquid **Odor** Jasmine

Precautionary Statements - Prevention
• Do not handle until all safety precautions have been read and understood

Precautionary Statements - Response
• IF exposed or concerned: Get medical advice/attention

• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

• IF ON SKIN: Wash with plenty of soap and water

• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

• IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
Store in a well-ventilated place

Precautionary Statements - Disposal
Dispose of contents/container to approved disposal facility

Hazards not otherwise classified (HNOC)
Other information
Unknown Acute Toxicity 12.2013% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS-No	Weight-%	Trade Secret
Dipropylene glycol monomethyl ether	34590-94-8	5% - 7%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice Show this safety data sheet to the doctor in attendance.

Eye contact Flush with large amounts of running water for at least 15 minutes while holding upper and lower lids open. If irritation persists get medical attention immediately.

Skin contact Wash with water for 15 minutes. See physician if irritation persists.

Inhalation Remove to fresh air.

Ingestion If product is swallowed, do not induce vomiting. If vomiting occurs keep head lower than hips to help prevent aspiration. If individual is alert, give plenty of water to drink. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Main Symptoms The most important known symptoms and effects are described in the labelling in section 2 and/or in section 11.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use water vapor, foam or fog. Firefighters should ware proper protective equipment.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear appropriate protective equipment..

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Absorb with an inert material and put spilled material in appropriate waste containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling KEEP OUT OF REACH OF CHILDREN. CAUTION. Avoid contact with eyes. Keep container closed when not in use. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container in cool well ventilated area. Keep container tightly closed. Store away from incompatible materials.

Incompatible products Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Review Section 3 & 4 for Exposure Guidelines.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Dipropylene glycol monomethyl ether 34590-94-8	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 600 mg/m^3 S*	IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m^3 STEL: 150 ppm STEL: 900 mg/m^3

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation and that running water is available for washing eyes and skin

Individual protection measures, such as personal protective equipment

Eye/Face Protection Splash-proof chemical goggles or face shield.

Skin and body protection Impervious rubber, alkali-proof protective gloves. Impervious rubber boots & apron..

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Do not eat, drink or smoke when using this product. Practice good personal hygiene. Wash after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state	Liquid		
Appearance	Translucent	**Odor**	Jasmine
Color	Green	**Odor Threshold**	No information available

Property	**Values**	**Remarks • Methods**
pH	8.5	
Melting/freezing point	No information available	
Boiling point/boiling range	100 °C 212 °F	
Flash Point	No information available	
Evaporation rate	1	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.018	
Water solubility	Completely Soluble	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Viscosity, dynamic	No information available	
Explosive properties	No information available	
Oxidizing Properties	No information available	

Other information

Softening point	No information available
Molecular Weight	No information available
VOC Content(%)	< 1%
Density VALUE	No information available
Bulk Density VALUE	No information available

10. STABILITY AND REACTIVITY

Chemical stability
Stable.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon monoxide, carbon dioxide and other organic materials.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Inhalation Inhalation of vapors in high concentration may cause irritation of the respiratory system.

Eye contact May cause irritation.

Skin contact May cause skin irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
Dipropylene glycol monomethyl ether 34590-94-8	= 5230 mg/kg (Rat)	= 9500 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Mutagenic effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.
IARC: (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans
Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Existing skin diseases may be aggravated by overexposure.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 12.2013% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 76531 mg/kg
ATEmix (dermal) 2714 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

12.2013% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Dipropylene glycol monomethyl ether 34590-94-8	-	10000: 96 h Pimephales promelas mg/L LC50 static	-

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Dipropylene glycol monomethyl ether 34590-94-8	-0.064

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods	Liquid wastes are not permitted in landfill. Consult local, state, and federal agencies for proper disposal in your area.
Contaminated packaging	Do not reuse container.

14. TRANSPORT INFORMATION

DOT	Not regulated
Proper shipping name	Cleaning Compound, Not Regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	-
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - All components of this product are listed or are exempt or excluded from listing on the United States Toxic Substances Control Act Section 8(b) Inventory.
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product contains substances regulated by state right-to-know regulations.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Dipropylene glycol monomethyl ether 34590-94-8	X	-	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 0	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health hazard** 1	**Flammability** 0	**Physical Hazards** 0	**Personal protection** X

Prepared By
Issuing date 05-Jul-2015
Revision Date 05-Jul-2015
Revision Note
Release # 1

Disclaimer
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End of Safety Data Sheet

Safety Data Sheet

according to Hazard Communication Standard; 29 CFR 1910.1200

WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®

Version *1*.1 Print Date 03/04/2015

Revision Date 02/25/2015 SDS Number 350000014153

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name : **WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®**

Recommended use : Hard Surface Cleaner

Manufacturer, importer, supplier : S.C. Johnson & Son, Inc.
1525 Howe Street
Racine WI 53403-2236

Telephone : +18005585252

Emergency telephone number : 24 Hour Medical Emergency Phone: (866)231-5406
24 Hour International Emergency Phone: (703)527-3887
24 Hour Transport Emergency Phone: (800)424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification
This product does not meet the criteria for classification in any hazard class according to regulation OSHA 29 CFR 1910.1200.

Labelling

Precautionary statements

Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not contain hazardous chemicals at or above a reportable level as defined by OSHA 29 CFR 1910.1200

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Eye contact	:	No special requirements
Skin contact	:	No special requirements
Inhalation	:	No special requirements.
Ingestion	:	No special requirements

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	:	Container may melt and leak in heat of fire.
Further information	:	Fight fire with normal precautions from a reasonable distance. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Wash thoroughly after handling.
Environmental precautions	:	Outside of normal use, avoid release to the environment.
Methods and materials for containment and cleaning up	:	Dike large spills. Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Avoid contact with skin, eyes and clothing. For personal protection see section 8. KEEP OUT OF REACH OF CHILDREN AND PETS.

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers	:	Keep container closed when not in use.
Other data	:	Stable under normal conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

ACGIH or OSHA exposure limits have not been established for this product or reportable ingredients unless noted in the table above.

Personal protective equipment

Respiratory protection	:	No special requirements.
Hand protection	:	No special requirements.
Eye protection	:	No special requirements.
Skin and body protection	:	No special requirements.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	blue
Odor	:	pleasant
Odour Threshold	:	Test not applicable for this product type
pH	:	10.7

at (25 C)

Melting point/freezing point	:	0 C
Initial boiling point and boiling range	:	100 C
Flash point	:	> 93 °C > 199.4 °F Approximate
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Does not sustain combustion.
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Relative density	:	1.00 g/cm3 at 25 C
Solubility(ies)	:	soluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available

WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®

Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available
Volatile Organic Compounds Total VOC (wt. %)*	:	0.2 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified :

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	If accidental mixing occurs and toxic gas is formed, exit area immediately. Do not return until well ventilated.
Conditions to avoid	:	Direct sources of heat.
Incompatible materials	:	Do not mix with bleach or any other household cleaners. Strong bases
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Emergency Overview	:	This product does not meet the criteria for classification in any hazard class according to regulation OSHA 29 CFR 1910.1200.
Acute oral toxicity	:	LD50 estimated

WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®

Version *1*.1 Print Date 03/04/2015

Revision Date 02/25/2015 SDS Number 350000014153

> 5,000 mg/kg

Acute inhalation toxicity : LC50
estimated
> 2.58 mg/l

Acute dermal toxicity : LD50
estimated
> 5,000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	-
Skin corrosion/irritation	No classification proposed	-
Serious eye damage/eye irritation	No classification proposed	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : None known.

WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®

Version *1*.1 Print Date 03/04/2015

Revision Date 02/25/2015 SDS Number 350000014153

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is expected when used according to label directions.

No environmental data required.

Other adverse effects : None known.

13. DISPOSAL CONSIDERATIONS

Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

Land transport
Not classified as dangerous in the meaning of transport regulations.

Sea transport
Not classified as dangerous in the meaning of transport regulations.

Air transport
Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Notification status : All ingredients of this product are listed or are excluded from

listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Notification status : All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Ratings

Health	1
Flammability	2
Reactivity	0

NFPA Ratings

Health	1
Fire	2
Reactivity	0
Special	-

This information is being provided in accordance with the Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.1200). The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

WINDEX® ORIGINAL GLASS CLEANER WITH AMMONIA-D®

Version *1*.1 Print Date 03/04/2015

Revision Date 02/25/2015 SDS Number 350000014153

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

Material Safety Data Sheet SDS NUMBER - XJ04C

PRODUCT NAME: X JT VERTICAL JOINT SEALER GRAY

TREMCO

TREMPRO 635 GRAY - 15 SSG CS

Version *2.0*
REVISION DATE: 07/08/2012

DISTRIBUTED BY:
PIONEER MANUFACTURING CO
4529 INDUSTRIAL PKWY
CLEVELAND, OH 44135
PHONE NUMBER: 800-877-1500

Print Date 02/12/2014

SECTION 1 - PRODUCT IDENTIFICATION

Trade name	:	TREMPRO 635 GRAY - 15 SSG CS
Product code	:	635712 385
COMPANY	:	Tremco Incorporated 3735 Green Road Cleveland, OH 44122
Telephone	:	(216) 292-5000 8:30 - 5:00 EST
Emergency Phone:	:	(216) 765-6727 8:30 - 5:00 EST After Hours: Chemtrec 1-800-424-9300
Product use	:	Sealant

FOR CHEMICAL EMERGENCY
Call INFOTRAC
1-800-535-5053
24 hours per day, 7 days per week

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 2 - HAZARDS IDENTIFICATION

Emergency Overview

Gray. Non-sag gunnable paste. May cause slight irritation to the respiratory system. May cause nausea, headaches, and dizziness. May cause drowsiness, weakness, and fatigue. May cause allergic respiratory sensitization. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention. Move to fresh air. If required, artificial respiration or administration of oxygen can be performed by trained personnel.

Acute Potential Health Effects/ Routes of Entry

Inhalation	:	May cause slight irritation to the respiratory system. May cause nausea, headaches, and dizziness. May cause drowsiness, weakness, and fatigue. May cause allergic respiratory sensitization.
Eyes	:	Direct contact may cause mild irritation.
Ingestion	:	May cause gastrointestinal irritation, nausea, and vomiting.
Skin	:	May cause sensitization resulting in irritation, itching and redness.

Aggravated Medical Conditions

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

Chronic Health Effects

Overexposure may cause dermatitis, asthma, skin and respiratory sensitization and decreased lung function. Prolonged or repeated exposure to butyl benzyl phthalate may cause reduced body weights and adverse effects on the liver, kidney, spleen, pancreas, and reproductive organs. Organosilane may cause liver injury with fibrosis after repeated and prolonged overexposure. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

Target Organs: Skin, Eye, Ingestion, Lung

SECTION 3 - PRODUCT COMPOSITION

Chemical Name	CAS-No.	Weight %
Calcium carbonate	471-34-1	30.0 - 60.0
Polyurethane Polymer	NJ TSRN# 51721300-5388P	15.0 - 40.0
Butyl benzyl phthalate	85-68-7	15.0 - 40.0
Calcium Carbonate (Limestone)	1317-65-3	10.0 - 30.0

Diisodecyl phthalate	26761-40-0	3.0 - 7.0
Titanium dioxide	13463-67-7	1.0 - 5.0

SECTION 4 - FIRST AID MEASURES

Get immediate medical attention for any significant overexposure.

Inhalation	:	Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.Move to fresh air. If required, artificial respiration or administration of oxygen can be performed by trained personnel.
Eye contact	:	Flush with water for at least 15 minutes while holding eye lids apart. Get medical attention immediately.
Skin contact	:	Clean area of contact thoroughly using soap and water. If irritation, rash or other disorders develop, get medical attention immediately.
Ingestion	:	Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

SECTION 5 - FIRE FIGHTING MEASURES

Flash point	:	Not available.
Method	:	Not available.
Burning rate	:	Non-flammable solid
Lower explosion limit	:	Not available.
Upper explosion limit	:	Not available.
Autoignition temperature	:	Not available.
Extinguishing media	:	If water fog is ineffective, use carbon dioxide, dry chemical or foam.
Hazardous combustion products	:	Carbon monoxide and carbon dioxide can form.Hydrocyanic acid and nitrogen oxides can form.
Protective equipment for firefighters	:	Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Use appropriate protective equipment. Avoid contact with material. Scrape up and transfer to appropriate container for disposal.

SECTION 7 - HANDLING AND STORAGE

Prevent inhalation of vapor, ingestion and contact with skin, eyes and clothing. Preferably use entire contents in one continuous work session. Do not smoke, weld, generate sparks, or use flame near container. Change soiled work clothes frequently. Clean hands thoroughly after handling Do not store or use near food. Keep container closed when not in use. Since emptied containers retain product residue and vapor, observe precautions even after container is emptied. Store under dry warehouse conditions away from heat and all ignition sources.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection equipment

Respiratory protection	:	Wear appropriate, properly fitted NIOSH/MSHA approved organic vapor or supplied air respirator when airborne contaminant level(s) are expected to exceed exposure limits indicated on the MSDS. Follow manufacturer's directions for respirator use.
Hand protection	:	Use suitable impervious nitrile or neoprene gloves and protective apparel to reduce exposure.
Eye protection	:	Wear appropriate eye protection.Use safety glasses if eye contact is likely.
Skin and body protection	:	Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.
Protective measures	:	Use professional judgment in the selection, care, and use.
Engineering measures	:	Use general ventilation and/ or local exhaust to reduce the airborne contaminant concentration below the exposure limit listed in the MSDS

Exposure Limits

Chemical Name	CAS Number	Regulation	Limit	Form
Calcium carbonate	471-34-1	OSHA PEL:	5 mg/m3	Respirable fraction.
		OSHA PEL:	15 mg/m3	Total dust.
		OSHA TWA:	15 mg/m3	Total dust.
		OSHA TWA:	5 mg/m3	Respirable fraction.
Calcium Carbonate (Limestone)	1317-65-3	OSHA PEL:	5 mg/m3	Respirable fraction.
		OSHA PEL:	15 mg/m3	Total dust.
		ACGIH TWA:	3 mg/m3	Respirable particles.
		ACGIH TWA:	10 mg/m3	Inhalable particles.
		OSHA TWA:	15 mg/m3	Total dust.
		OSHA TWA:	5 mg/m3	Respirable fraction.
Titanium dioxide	13463-67-7	ACGIH TWA:	10 mg/m3	
		OSHA PEL:	15 mg/m3	Total dust.
		OSHA TWA:	15 mg/m3	Total dust.
		OSHA TWA:	5 mg/m3	Respirable fraction.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Non-sag gunnable paste
Color	:	Gray
Odor	:	Petroleum Solvent
pH	:	Not available.
Vapour pressure	:	Not available.
Vapor density	:	Heavier than air
Melting point/range	:	Not available.

Freezing point	:	Not available.
Boiling point/range	:	Not available.
Water solubility	:	Insoluble
Specific Gravity	:	1.495
% Volatile Weight	:	0 %

SECTION 10 - REACTIVITY / STABILITY

Substances to avoid	:	Amines.Water or moisture and oxidizing agents.Alcohols.Strong acids.Strong bases.
Stability	:	Material is stable under normal storage, handling, and use.
Hazardous polymerization	:	Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Calcium carbonate, CAS-No.: 471-34-1
Acute oral toxicity (LD-50 oral) 6,450 mg/kg (Rat)

Butyl benzyl phthalate, CAS-No.: 85-68-7
Acute oral toxicity (LD-50 oral) 13,500 mg/kg (Rat)

SECTION 12 - ECOLOGICAL INFORMATION

No Data Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Method : Waste not regulated under RCRA. Dispose of in compliance with state and local regulations.

SECTION 14 - TRANSPORTATION / SHIPPING DATA

CFR / DOT:

Not Regulated

TDG:

Not Regulated

IMDG:

Not Regulated

SECTION 15 - REGULATORY INFORMATION

North American Inventories:

All components are listed or exempt from the TSCA inventory.
This product or its components are listed on, or exempt from the Canadian Domestic Substances List.

U.S. Federal Regulations:

SARA 313 Components : None present or none present in regulated quantities.

SARA 311/312 Hazards : Acute Health Hazard

OSHA Hazardous Components :

Calcium carbonate	471-34-1
Calcium Carbonate (Limestone)	1317-65-3
Titanium dioxide	13463-67-7

OSHA Status: Considered hazardous based on the following criteria: : Irritant

OSHA Flammability : Not Regulated

Regulatory VOC (less water and exempt solvent) : 5 g/l

VOC Method 310 : 0 %

U.S. State Regulations:

MASS RTK Components :	Calcium carbonate	471-34-1
	Butyl benzyl phthalate	85-68-7
	Calcium Carbonate (Limestone)	1317-65-3
	Titanium dioxide	13463-67-7
Penn RTK Components :	Calcium carbonate	471-34-1
	Polyurethane Polymer	NJ TSRN# 51721300-5388P
	Butyl benzyl phthalate	85-68-7
	Calcium Carbonate (Limestone)	1317-65-3
	Diisodecyl phthalate	26761-40-0
	Titanium dioxide	13463-67-7
NJ RTK Components :	Calcium carbonate	471-34-1
	Polyurethane Polymer	NJ TSRN# 51721300-5388P
	Butyl benzyl phthalate	85-68-7
	Calcium Carbonate (Limestone)	1317-65-3
	Diisodecyl phthalate	26761-40-0

Components under California Proposition 65:
WARNING! Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm

SECTION 16 - OTHER INFORMATION

HMIS Rating :

Health	2
Flammability	1
Reactivity	1
PPE	

0 = Minimum
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Further information:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

Prepared by: Rich Mikol

Legend

ACGIH - American Conference of Governmental Hygienists
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DOT - Department of Transportation
DSL - Domestic Substance List
EPA - Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency for Research on Cancer
MSHA - Mine Safety Health Administration
NDSL - Non-Domestic Substance List
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
RTK - Right To Know
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
V - Volume
VOC - Volatile Organic Compound
WHMIS - Workplace Hazardous Materials Information System

SAFETY DATA SHEET

Xtreme Blue Windshield Washer Concentrate

Section 1- Chemical Product and Company Identification

Product Name: **Xtreme Blue Windshield Washer Concentrate**

Supplier: **Camco Manufacturing, Inc.**
121 Landmark Drive
Greensboro, NC 27409
1-800-334-2004

Product Use: **Cleaner / Solvent**
Product Code: **30256 (32 oz Bottle)**
Date of Preparation/Revision: **October 7, 2014**
In case of Emergency: **1-800-535-5053**

Section 2- Hazards identification

Physical State: Liquid. [CLEAR, BLUE, FLAMMABLE, POISONOUS LIQUID WITH CHARACTERISTIC PUNGENT ODOR]

DANGER

GHS Classifications
Flammable Liquid (Category 3)
Acute Inhalation Toxicity (Category 3)
Acute Dermal Toxicity (Category 3)
Acute Oral Toxicity (Category 3)
Specific Target Organ Systemic Toxicity (STOT)-Single Exposure (Category 1)

Hazard Statements
H226 Flammable liquid and vapor
H331 Toxic if inhaled
H311 Toxic in contact with skin
H301 Toxic if swallowed
H370 Cause damage to organs

Precautionary statements
P102 Keep out of reach of children
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233 Keep container tightly closed
P260 Do not breathe dust/fumes/gas/mist/vapors/spray
P264 Wash thoroughly after handling

Response statements
P301 + P313 IF SWALLOWED: Immediately call a Poison Center or Doctor/Physician

P331 Do Not induce vomiting
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet)
Disposal
P501 Dispose of contents/container in accordance with local/regional/national regulations

FLAMMABLE LIQUID AND VAPOR
MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Flammable liquid. Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with skin and clothing. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use.

Target organs: May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

Potential acute health effects

Eyes: May cause eye irritation.
Skin: May cause skin irritation.
Inhalation: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

HMIS Ratings: Health: 1 **Fire:** 3 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Medical conditions aggravated by overexposure:
Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

Section 3 - Composition, Information on Ingredients

Name	CAS Number	% Volume	Exposure limits
Methanol	67-56-1	70.0 - 75.0	**ACGIH TLV (United States, 1/2009).** **Absorbed through skin.** STEL: 328 mg/m³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 262 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s). **NIOSH REL (United States, 6/2009)** **Absorbed through skin.** STEL: 325 mg/m³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 260 mg/m³ 10 hour(s). TWA: 200 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).**

TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).
OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
STEL: 325 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).

Section 4 - First Aid Measures

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5 - Fire-Fighting Measures

Flammability of the Product: Flammable
Auto-ignition Temperature: 464°C (867.2°F)
Flash Point: Closed cup: 86° F (30.0° C)
Flammable Limits: Lower: 6% Upper: 36%
Products of Combustion: Decomposition products may include the following materials: Carbon Dioxide and Carbon Monoxide
Extinguishing Media
Suitable: Use dry chemical, CO2, water spray (fog) or foam.
Not suitable: Do not use water jet.
Special Exposure Hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Equipment for Fire-Fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

HMIS Ratings: Health: 1 **Fire:** 3 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Section 6 - Accidental release measures

Personal Precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for Cleaning Up: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7- Handling and Storage

Handling: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8 - Exposure Controls / Personal Protection

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory: Use only with adequate ventilation.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Personal protection in case of a large spill: Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name:

Methanol

ACGIH TLV (United States, 1/2009). Absorbed through skin.
STEL: 328 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 262 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).

NIOSH REL (United States, 6/2009). Absorbed through skin.
STEL: 325 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 260 mg/m³ 10 hour(s).
TWA: 200 ppm 10 hour(s).

OSHA PEL (United States, 11/2006).
TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).

OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.
STEL: 325 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).

TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 9 - Physical and Chemical Properties

Physical State:	Clear Blue Liquid
Odor:	Mild Alcohol Odor
Boiling/condensation point:	150 - 180° F
Melting/freezing point:	-65° F
Critical temperature:	Not Determined
Solubility in Water:	Completely Soluble
Specific Gravity:	0.9330@ 70° F
Flash Point (PMCC):	86° F (30.0° C)
Auto-ignition Temperature:	464°C (867.2°F)
Flammable Limits in Air by Volume:	LOWER: ~ 6.0 vol % UPPER: ~ 36.0 vol %
Evaporation Rate:	Similar to Water
Decomposition Temperature:	Not Determined
Viscosity (cps):	< 20cps
VOC (%):	approximately 68% by weight

Section 10 - Stability and Reactivity

Stability and Reactivity:	The product is stable.
Incompatibility with various Substances:	Extremely reactive or incompatible with the following materials: oxidizing materials.
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11 - Toxicological Information

Toxicity Data

Product/Ingredient Name	Result	Species	Dose	Exposure
Methanol	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Intraperitoneal	Rat	7529 mg/kg	-
	LD50 Intravenous	Rat	2131 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	TDLo Oral	Rat	8 g/kg	-
	TDLo Intraperitoneal	Rat	3490 mg/kg	-
	TDLo Oral	Rat	3500 mg/kg	-
	TDLo Intraperitoneal	Rat	3000 mg/kg	-
	TDLo Oral	Rat	3 g/kg	-
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours

IDLH: 6000 ppm

Chronic effects on humans May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

Other toxic effects on humans No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects
Carcinogenic Effects: No known significant effects or critical hazards.
Mutagenic Effects: No known significant effects or critical hazards.
Reproduction Toxicity: No known significant effects or critical hazards.

Section 12 - Ecological Information

Aquatic Ecotoxicity:

Methanol	Acute EC50 2220 to 23400 mg/L Fresh Water	Daphnia – Water Flea – Daphnia obtuse - Neonate - <24 hours	48 hours
	Acute EC50 13000000 13400000 ug/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss Juvenile (Fledgling, Hatchling, Weanling) 0.813 g	96 hours
	Acute EC50 12700000 13700000 ug/l Fresh Water	Fish – Bluegill – Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) 3.07 g	96 hours
	Acute EC50>10000000 ug/L Fresh Water Water	Daphnia – Water Flea – Daphnia magna - 6 to 24 hours	48 hours
	Acute EC50 24500000 to 2935000023400 ug/L Fresh Water	Daphnia – Water Flea – Daphnia magna -Larve - <24 hours	48 hours
	Acute EC50 15500mg/L Fresh Water	Fish – Bluegill – Lepomis macrochirus	96 hours
	Acute EC50 3289 to 4395 mg/L Fresh Water	Daphnia – Water Flea – Daphnia magna - Neonate - <24 hours	48 hours
	Acute LC50 10000000 to 33000000 ug/L Marine Water	Fish – Hooknose – Agonus cataphractus - Adult	96 hours
	Acute EC50 19 to 20 ml/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss 0.8 g	96 hours
	Acute LC50 250000 ug/L Marine Water	Crustaceans – Common shrimp – sand shrimp –	48 hours

	Crangon crangon – Adult	
Acute EC50 >100000 ug/l Fresh Water	Fish – Fathead minnow Pimephales promelas Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
Acute EC50 28000000 ug/l Marine Water	Fish – Bleak – Alburnus alburnus – 8 cm	96 hours
Acute EC50 >28000000 ug/l Marine Water	Fish – Bleak – Alburnus alburnus – 8 to 10 cm	96 hours
Acute EC50 15400000 to 17600000 ug/l Fresh Water	Fish – Bluegill – Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) 3.07 g	96 hours
Acute EC50 20100000 to 20700000 ug/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss Juvenile (Fledgling, Hatchling, Weanling) 0.813 g	96 hours

Products of degradation: Products of degradation: carbon oxides (CO, CO_2) and water.

Section 13 - Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14 - Transport information

Domestic Ground within the Continental US under 49CFR100-185

Regulatory Information	UN Number	Proper Shipping Name	Class	Packing Group	
DOT Classification	UN1993	Flammable Liquid n.o.s. (Methanol)	3	III	LTD QTY

See 49CFR173.150 for more details - refer to current TDG Canada for further Canadian regulations

IMDG
Refer to Current IMDG regulations for full shipping description requirements

IATA
This material is not prepared or packaged for air transportation

International shipping requirements must be determined by the party offering the material for transportation

Section 15 - Regulatory Information

U.S. Federal regulations

United States inventory (TSCA 8b): This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Methanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Methanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313	Product Name	CAS Number	Concentration
Form R – Reporting Requirements:	**Listed and** Methanol	67-56-1	

State regulations

Connecticut Carcinogen Reporting: This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed
California Prop 65 Warning: Listed and Products of Combustion

Section 16 - Other information

NFPA CODES:	Health	1
	Flammability	3
	Reactivity	0

Note - NFPA ratings are based on a 0-4 rating scale with 0 representing minimal hazards or risks and 4 representing extreme hazards or risks.

Date of Preparation/Revision: **October 7, 2014** (Supersedes all previous MSDS and SDS)

Xtreme Blue Windshield Washer Concentrate

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate, obtained from sources believed by Camco Manufacturing, Inc., to be accurate. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the responsibility of the user to determine the safety, toxicity and suitability of their own use, handling and disposal of this product.

SAFETY DATA SHEET

Xtreme Blue Windshield Washer Concentrate

Section 1- Chemical Product and Company Identification

Product Name: **Xtreme Blue Windshield Washer Concentrate**

Supplier: **Camco Manufacturing, Inc.**
121 Landmark Drive
Greensboro, NC 27409
1-800-334-2004

Product Use: **Cleaner / Solvent**
Product Code: **30256 (32 oz Bottle)**
Date of Preparation/Revision: **June 11, 2013**
In case of Emergency: **1-800-535-5053**

Section 2- Hazards identification

Physical State: Liquid. [CLEAR, BLUE, FLAMMABLE, POISONOUS LIQUID WITH CHARACTERISTIC PUNGENT ODOR]

Emergency overview: **DANGER** **TOXIC**
HIGHLY FLAMMABLE LIQUID AND VAPOR.

Danger

Poison

MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Highly Flammable liquid. Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with skin and clothing. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use.

Target organs: May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

Potential acute health effects

Eyes: May cause eye irritation.
Skin: May cause skin irritation.
Inhalation: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

HMIS Ratings: Health: 1 **Fire:** 3 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Medical conditions aggravated by overexposure:

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

Section 3 - Composition, Information on Ingredients

Name	CAS Number	% Volume	Exposure limits
Methanol	67-56-1	>70.0	**ACGIH TLV (United States, 1/2009).** **Absorbed through skin.** STEL: 328 mg/m³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 262 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s). **NIOSH REL (United States, 6/2009)** **Absorbed through skin.** STEL: 325 mg/m³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 260 mg/m³ 10 hour(s). TWA: 200 ppm 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 260 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** **Absorbed through skin.** STEL: 325 mg/m³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 260 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s).

Section 4 - First Aid Measures

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5 - Fire-Fighting Measures

Flammability of the Product: Flammable
Auto-ignition Temperature: 464°C (867.2°F)
Flash Point: Closed cup: 86° F (30.0° C)

Flammable Limits:	Lower: 6% Upper: 36%
Products of Combustion:	Decomposition products may include the following materials: Carbon Dioxide and Carbon Monoxide
Extinguishing Media Suitable:	Use dry chemical, CO2, water spray (fog) or foam.
Not suitable:	Do not use water jet.
Special Exposure Hazards:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Equipment for Fire-Fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

HMIS Ratings: Health: 1 **Fire:** 3 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Section 6 - Accidental release measures

Personal Precautions:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods for Cleaning Up:	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7- Handling and Storage

Handling:	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this

material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8 - Exposure Controls / Personal Protection

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory:	Use only with adequate ventilation.
Hands:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Personal protection in case of a large spill:	Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name:

Methanol

ACGIH TLV (United States, 1/2009). Absorbed through skin.
STEL: 328 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 262 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).
NIOSH REL (United States, 6/2009). Absorbed through skin.
STEL: 325 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 260 mg/m³ 10 hour(s).
TWA: 200 ppm 10 hour(s).
OSHA PEL (United States, 11/2006).
TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).
OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.
STEL: 325 mg/m³ 15 minute(s).
STEL: 250 ppm 15 minute(s).
TWA: 260 mg/m³ 8 hour(s).
TWA: 200 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 9 - Physical and Chemical Properties

Physical State:	Clear Blue Liquid
Odor:	Mild Alcohol Odor
Boiling/condensation point:	150 - 180° F
Melting/freezing point:	-15° F
Critical temperature:	Not Determined
Solubility in Water:	Completely Soluble
Specific Gravity:	0.9330@ 70° F
Evaporation rate:	Greater than n-Butyl Acetate
VOC (%):	approximately 68% by weight

Section 10 - Stability and Reactivity

Stability and Reactivity:	The product is stable.
Incompatibility with various Substances:	Extremely reactive or incompatible with the following materials: oxidizing materials.
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11 - Toxicological Information

Toxicity Data

Product/Ingredient Name	Result	Species	Dose	Exposure
Methanol	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Intraperitoneal	Rat	7529 mg/kg	-
	LD50 Intravenous	Rat	2131 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	TDLo Oral	Rat	8 g/kg	-
	TDLo Intraperitoneal	Rat	3490 mg/kg	-
	TDLo Oral	Rat	3500 mg/kg	-
	TDLo Intraperitoneal	Rat	3000 mg/kg	-
	TDLo Oral	Rat	3 g/kg	-
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours

IDLH: 6000 ppm

Chronic effects on humans May cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

Other toxic effects on humans No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic Effects: No known significant effects or critical hazards.

Mutagenic Effects: No known significant effects or critical hazards.

Reproduction Toxicity: No known significant effects or critical hazards.

Section 12 - Ecological Information

Aquatic Ecotoxicity:

Methanol	Acute EC50 2220 to 23400 mg/L Fresh Water	Daphnia – Water Flea – Daphnia obtuse - Neonate - <24 hours	48 hours
	Acute EC50 13000000 13400000 ug/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss Juvenile (Fledgling, Hatchling, Weanling) 0.813 g	96 hours
	Acute EC50 12700000 13700000 ug/l Fresh Water	Fish – Bluegill – Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) 3.07 g	96 hours
	Acute EC50>10000000 ug/L Fresh Water Water	Daphnia – Water Flea – Daphnia magna - 6 to 24 hours	48 hours

Acute EC50 24500000 to 2935000023400 ug/L Fresh Water	Daphnia – Water Flea – Daphnia magna -Larve - <24 hours	48 hours
Acute EC50 15500mg/L Fresh Water	Fish – Bluegill – Lepomis macrochirus	96 hours
Acute EC50 3289 to 4395 mg/L Fresh Water	Daphnia – Water Flea – Daphnia magna - Neonate - <24 hours	48 hours
Acute LC50 10000000 to 33000000 ug/L Marine Water	Fish – Hooknose – Agonus cataphractus - Adult	96 hours
Acute EC50 19 to 20 ml/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss 0.8 g	96 hours
Acute LC50 250000 ug/L Marine Water	Crustaceans – Common shrimp – sand shrimp – Crangon crangon – Adult	48 hours
Acute EC50 >100000 ug/l Fresh Water	Fish – Fathead minnow Pimephales promelas Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
Acute EC50 28000000 ug/l Marine Water	Fish – Bleak – Alburnus alburnus – 8 cm	96 hours
Acute EC50 >28000000 ug/l Marine Water	Fish – Bleak – Alburnus alburnus – 8 to 10 cm	96 hours
Acute EC50 15400000 to 17600000 ug/l Fresh Water	Fish – Bluegill – Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) 3.07 g	96 hours
Acute EC50 20100000 to 20700000 ug/L Fresh Water	Fish – Rainbow trout, Donaldson trout – Oncorhynchus mykiss Juvenile (Fledgling, Hatchling, Weanling) 0.813 g	96 hours

Products of degradation: Products of degradation: carbon oxides (CO, CO_2) and water.

Section 13 - Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14 - Transport information

Domestic Ground within the Continental US under 49CFR100-185

Regulatory Information	UN Number	Proper Shipping Name	Class	Packing Group	
DOT Classification	UN1993	Flammable Liquid n.o.s. (Methanol)	3	III	LTD QTY

See 49CFR173.150 for more details - refer to current TDG Canada for further Canadian regulations

IMDG
Refer to Current IMDG regulations for full shipping description requirements

IATA
This material is not prepared or packaged for air transportation

International shipping requirements must be determined by the party offering the material for transportation

Section 15 - Regulatory Information

U.S. Federal regulations

United States inventory (TSCA 8b): This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Methanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Methanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313	Product Name	CAS Number	Concentration
Form R – Reporting Requirements:	**Listed and** Methanol	67-56-1	

State regulations

Connecticut Carcinogen Reporting: This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.

Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed
California Prop 65 Warning: Listed and Products of Combustion

Section 16 - Other information

NFPA CODES:	Health	1
	Flammability	3
	Reactivity	0

Note - NFPA ratings are based on a 0-4 rating scale with 0 representing minimal hazards or risks and 4 representing extreme hazards or risks.

Date of Preparation/Revision: **June 11, 2013** (Supersedes all previous MSDS)

DISCLAIMER

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the responsibility of the user to determine the safety, toxicity and suitability of their own use, handling and disposal of this product.

SAFETY DATA SHEET

Revision Date 18-Jun-2015 **Version** 2

1. IDENTIFICATION

Product identifier
Product Name Xylol

Other means of identification
Product Code N-3023
UN/ID no. UN1263
SKU(s) None

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 3

Emergency Overview

Danger

Hazard statements
Harmful in contact with skin
Harmful if inhaled
Causes skin irritation
Suspected of causing cancer
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical/ ventilating/ lighting/ equipment

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Call a POISON CENTER or doctor/physician if you feel unwell
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• May be harmful if swallowed
• Toxic to aquatic life with long lasting effects
• Toxic to aquatic life
Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Xylene	1330-20-7	40 - 70	*
Ethyl Benzene	100-41-4	15 - 40	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with plenty of water. Call a physician immediately. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Call a physician immediately. Move to fresh air in case of accidental inhalation of vapors.

Ingestion Rinse mouth. If symptoms persist, call a physician. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Call a physician.

Self-protection of the first aider Remove all sources of ignition. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Flammable.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Cover liquid spill with sand, earth or other non-combustible absorbent material. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m^3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m^3 (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m^3	-
Ethyl Benzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m^3 (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m^3 (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m^3	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m^3 STEL: 125 ppm STEL: 545 mg/m^3

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles. Face protection shield.
Skin and body protection	No special technical protective measures are necessary.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	No information available
Color	No information available	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 110 °C / 277 °F	
Flash point	26 °C / 79 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.87	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	8.59 lbs/gal
Bulk density	No information available
Percent solids by weight	0.0%
Percent volatile by weight	100.0%
Percent solids by volume	0.0%
Actual VOC (lbs/gal)	7.3
Actual VOC (grams/liter)	869
EPA VOC (lbs/gal)	7.3
EPA VOC (grams/liter)	869
EPA VOC (lb/gal solids)	0

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Chlorinated compounds.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylene 1330-20-7	= 3500 mg/kg (Rat)	> 1700 mg/kg (Rabbit) > 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Ethyl Benzene 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylene 1330-20-7	-	Group 3	-	-
Ethyl Benzene 100-41-4	A3	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not classifiable as a human carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Avoid repeated exposure. Ethylbenzene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). Prolonged or repeated overexposure to ethylbenzene may result in adverse effects to the kidneys, liver, respiratory system, thyroid, testicles, and pituitary glands.
Target Organ Effects Central nervous system, Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Xylene 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Ethyl Benzene 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Lepomis macrochirus mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 9.6: 96 h Poecilia reticulata mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Xylene 1330-20-7	2.77 - 3.15
Ethyl Benzene 100-41-4	3.118

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D001 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylene 1330-20-7	-	Included in waste stream: F039	-	U239
Ethyl Benzene 100-41-4	-	Included in waste stream: F039	-	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Xylene 1330-20-7	Toxic Ignitable
Ethyl Benzene 100-41-4	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class Class 3, Flammable Liquid

Packing Group III
Special Provisions B1, B52, IB3, T2, TP1, TP29
Emergency Response Guide Number 128

TDG

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III

MEX

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III

ICAO (air)

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III
Special Provisions A3, A72

IATA

UN/ID no. UN1263
Proper shipping name Paint
Hazard Class 3
Packing Group III
ERG Code 3L
Special Provisions A3, A72

IMDG

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
EmS-No.	F-E, S-E
Special Provisions	163, 223, 955
Description	UN1263, Paint, 3, III

RID

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1

ADR

UN/ID no.	UN1263
Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640E, 650
Labels	3

ADN

Proper shipping name	Paint
Hazard Class	3
Packing Group	III
Classification code	F1
Special Provisions	163, 640E, 650
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Xylene - 1330-20-7	1.0
Ethyl Benzene - 100-41-4	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylene 1330-20-7	100 lb	-	-	X
Ethyl Benzene 100-41-4	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylene 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Ethyl Benzene 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl Benzene - 100-41-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Xylene 1330-20-7	X	X	X
Ethyl Benzene 100-41-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Chemical Name	Weight % of HAPS in Product	Pounds HAPS / Gal Product
Xylene 1330-20-7	65.00%	4.71
Ethyl Benzene 100-41-4	35.00%	2.54

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 3	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2 *	**Flammability** 3	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = *Chronic Health Hazard*

Revision Date 18-Jun-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 04-Jun-2015 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name Yellow Traffic High Solids L/F

Other means of identification
Product Code UC3590-825
SKU(s) UC3590-825, UC3590-825, UC3590-955

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Diamond Vogel Paint
1020 Albany Place SE
Orange City, IA 51041
Phone: 712-737-4993
Fax: 712-737-4997

Emergency telephone number
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1

Emergency Overview

Danger

Hazard statements
Harmful if swallowed
May cause cancer
May damage fertility or the unborn child
Causes damage to organs

Appearance No information available **Physical state** liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
IF exposed: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
• Harmful to aquatic life with long lasting effects
• Toxic to aquatic life
Unknown acute toxicity 56.94% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Calcium carbonate	1317-65-3	30 - 60	*
Methanol	67-56-1	1 - 5	*
Titanium dioxide	13463-67-7	1 - 5	*
Texanol	25265-77-4	1 - 5	*
Dibutylphthalate	84-74-2	0.1 - 1	*
Crystalline Silica	14808-60-7	0.1 - 1	*
Heavy Paraffinic Distillate	64742-54-7	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.

Skin Contact Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Immediate medical attention is required. Remove to fresh air. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Use personal protective equipment as required. Dam up. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Calcium carbonate 1317-65-3	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	IDLH: 5000 mg/m³
Dibutylphthalate 84-74-2	TWA: 5 mg/m³	TWA: 5 mg/m³ (vacated) TWA: 5 mg/m³	IDLH: 4000 mg/m³ TWA: 5 mg/m³
Crystalline Silica 14808-60-7	TWA: 0.025 mg/m³ respirable fraction	(vacated) TWA: 0.1 mg/m³ respirable dust : (30)/(%SiO2 + 2) mg/m³ TWA total dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m³ TWA respirable fraction	IDLH: 50 mg/m³ respirable dust TWA: 0.05 mg/m³ respirable dust

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special technical protective measures are necessary.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	No information available	**Odor**	No information available
Color	No information available	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	9.7+	
Melting point/freezing point	No information available	
Boiling point / boiling range	>= 26 °C / 79 °F	
Flash point	> 94 °C / > 201 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.65	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	13.73 lbs/gal
Bulk density	No information available
Percent solids by weight	77.6%
Percent volatile by weight	3.2%
Percent solids by volume	62.0%
Actual VOC (lbs/gal)	0.4
Actual VOC (grams/liter)	52.1
EPA VOC (lbs/gal)	0.6
EPA VOC (grams/liter)	76.3
EPA VOC (lb/gal solids)	0.7

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methanol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Texanol 25265-77-4	= 3200 mg/kg (Rat)	> 15200 mg/kg (Rat)	-
Dibutylphthalate 84-74-2	= 7499 mg/kg (Rat)	> 20 mL/kg (Rabbit)	> 15.68 mg/L (Rat) 4 h
Crystalline Silica 14808-60-7	= 500 mg/kg (Rat)	-	-
Heavy Paraffinic Distillate 64742-54-7	> 15 g/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7	-	Group 2B	-	X
Crystalline Silica 14808-60-7	A2	Group 1	Known	X
Heavy Paraffinic Distillate 64742-54-7	A2	Group 1	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Central nervous system, Eyes, Gastrointestinal tract (GI), lungs, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

95.58% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Methanol 67-56-1	-	28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through	-
Texanol 25265-77-4	18.4: 72 h Pseudokirchneriella subcapitata mg/L EC50	30: 96 h Pimephales promelas mg/L LC50	95: 96 h Daphnia magna mg/L LC50
Dibutylphthalate 84-74-2	1.2: 72 h Desmodesmus subspicatus mg/L EC50 0.4: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.71 - 1.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.31 - 5.45: 96 h Pimephales promelas mg/L LC50 static 1.24: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.24 - 5.3: 96 h Oncorhynchus mykiss mg/L LC50 static 1.38 - 1.74: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.42 - 1.28: 96 h Lepomis macrochirus mg/L LC50 static	2.99: 48 h Daphnia magna mg/L EC50 Static 3.4: 48 h Daphnia magna mg/L EC50
Heavy Paraffinic Distillate 64742-54-7	-	5000: 96 h Oncorhynchus mykiss mg/L LC50	1000: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Methanol 67-56-1	-0.77
Texanol 25265-77-4	3.47
Dibutylphthalate 84-74-2	5.38

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number U069 U154

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methanol 67-56-1	-	Included in waste stream: F039	-	U154
Dibutylphthalate 84-74-2	U069	Included in waste stream: F039	-	U069

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Methanol 67-56-1	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies *
EINECS/ELINCS	Does not comply *
ENCS	Does not comply *
IECSC	Complies *
KECL	Complies *
PICCS	Complies *
AICS	Complies *

* This product contains an unknown chemical, therefore, this product's compliance to the inventory list is NOT DETERMINED

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Methanol - 67-56-1	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Dibutylphthalate 84-74-2	10 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methanol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Dibutylphthalate 84-74-2	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Methanol - 67-56-1	Developmental
Titanium dioxide - 13463-67-7	Carcinogen
Dibutylphthalate - 84-74-2	Developmental Female Reproductive Male Reproductive
Crystalline Silica - 14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Calcium carbonate 1317-65-3	X	X	X
Methanol 67-56-1	X	X	X
Titanium dioxide 13463-67-7	X	X	X
Dibutylphthalate 84-74-2	X	X	X
Crystalline Silica 14808-60-7	X	X	X
Calcium Resinate 9007-13-0	X	-	-
Silica, Amorphous fumed 7631-86-9	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Hazardous air pollutants (HAPS) content

LIST OF HAZARDOUS AIR POLLUTANTS SUBJECT TO THE PROVISIONS OF THE CLEAN AIR ACT, TITLE I SECTION 112 'National Emission Standards for Hazardous Air Pollutants':

Chemical Name	Weight % of HAPS in Product	Pounds HAPS / Gal Product
Methanol 67-56-1	2.14%	0.29

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 1	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2 *	**Flammability** 1	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend * = Chronic Health Hazard

Revision Date 04-Jun-2015

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : Zep MVP

Material number : 000000000000092799

Manufacturer or supplier's details

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW
Atlanta, GA 30318

Telephone : 404-352-1680

Emergency telephone numbers

For SDS Information	:	Compliance Services 1-877-428-9937
For a Medical Emergency	:	877-541-2016 Toll Free - All Calls Recorded
For a Transportation Emergency	:	CHEMTREC: 800-424-9300 - All Calls Recorded. In the District of Columbia 202-483-7616

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Colour	milky, white
Odour	pleasant

GHS Classification

:

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash hands thoroughly after handling.
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Potential Health Effects

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration [%]
Citrus, ext.	94266-47-4	>= 5 - < 10
4-Nonylphenol branched, ethoxylated	127087-87-0	>= 1 - < 5
TEA Tallate	8043-27-4	>= 1 - < 5
propane-1,2-diol	57-55-6	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : This product is formulated for use on skin but should always be immediately washed off with plenty of water. Discontinue use if irritation and redness develop. If conditions persist for more than 72 hours, condult a physician.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
If in eyes, rinse with water for 15 minutes.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Water spray jet Alcohol-resistant foam Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide Smoke Nitrogen oxides (NOx)
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use non-slip safety shoes in areas where spills or leaks can occur. Material can create slippery conditions. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Materials to avoid : Keep away from oxidising agents and strongly acid or alkaline materials.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection
Remarks : No special protection is required.

Eye protection : Eye protection is not required while washing with this product.
In the workplace, the use of safety glasses is recommended to avoid eye exposure during the handling of containers or during spill clean-up.

Skin and body protection : No special protection is required.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : milky, white

Odour : pleasant

Odour Threshold : no data available

pH : 4.5 - 5.5

Melting point/freezing point : no data available

Boiling point	:	104.4 °C
Flash point	:	does not flash
Evaporation rate	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	not determined
Relative vapour density	:	no data available
Density	:	0.95 g/cm3
Solubility(ies)		
Water solubility	:	emulsifiable
Solubility in other solvents	:	not determined
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	not determined
Thermal decomposition	:	no data available
Viscosity		
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	no data available
Incompatible materials	:	None.
Hazardous decomposition products	:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:

4-Nonylphenol branched, ethoxylated:
Acute oral toxicity : LD50 rat: 5,000 mg/kg

Acute dermal toxicity : LD50 rabbit: 2,573 mg/kg

Skin corrosion/irritation

Product:

Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: Irritating to eyes.

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Citrus, ext.:
4-Nonylphenol branched, ethoxylated:
TEA Tallate:
propane-1,2-diol:

STOT - single exposure

no data available

STOT - repeated exposure

no data available

Aspiration toxicity

no data available

Further information

Product:

Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water	:	Remarks: no data available

Components:

propane-1,2-diol :

Partition coefficient: n-octanol/water	:	log Pow: -1.07

Mobility in soil

no data available

Other adverse effects

no data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with local regulations. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IMDG (Vessel):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Cargo Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Passenger Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: TDG (Canada):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA On TSCA Inventory

DSL	This product contains one or several components that are not on the Canadian DSL nor NDSL.
AICS	Not in compliance with the inventory
NZIoC	Not in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	Not in compliance with the inventory

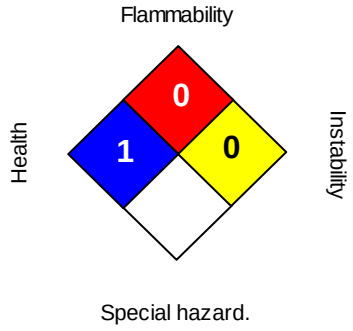
Inventory Acronym and Validity Area Legend:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA GHS Label Information:

Hazard pictograms :

Signal word	:	**Warning:**
Hazard statements	:	Causes serious eye irritation.
Precautionary statements	:	**Prevention:** Wash hands thoroughly after handling. Wear eye protection/ face protection. **Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®,Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®,Rexodan®, Mykal™, and a number of private labeled brands.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : Zep Reach

Material number : 000000000000092599

Manufacturer or supplier's details

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW
Atlanta, GA 30318

Telephone : 404-352-1680

Emergency telephone numbers

For SDS Information	:	Compliance Services 1-877-428-9937
For a Medical Emergency	:	877-541-2016 Toll Free - All Calls Recorded
For a Transportation Emergency	:	CHEMTREC: 800-424-9300 - All Calls Recorded. In the District of Columbia 202-483-7616

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	gel
Colour	green
Odour	characteristic

GHS Classification

Eye irritation : Category 2A

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Potential Health Effects

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration [%]
Distillates (petroleum), hydrotreated light	64742-47-8	>= 30 - < 50
MEA Tallate	Not Assigned	>= 1 - < 5
4-Nonylphenol branched, ethoxylated	127087-87-0	>= 1 - < 5
.alpha.-(Nonylphenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl)phosphate	51811-79-1	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : This product is formulated for use on skin but should always be immediately washed off with plenty of water. Discontinue use if irritation and redness develop. If conditions persist for more than 72 hours, condult a physician.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
If in eyes, rinse with water for 15 minutes.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray jet Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide Smoke
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Material can create slippery conditions. Refer to protective measures listed in sections 7 and 8. Use non-slip safety shoes in areas where spills or leaks can occur.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Avoid contact with eyes. Smoking, eating and drinking should be prohibited in the

application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light	64742-47-8	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection
Remarks : No special protection is required.

Eye protection : Eye protection is not required while washing with this product.
In the workplace, the use of safety glasses is recommended to avoid eye exposure during the handling of containers or during spill clean-up.

Skin and body protection : No special protection is required.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : gel

Colour	:	green
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	7.5 - 8.5
Melting point/freezing point	:	No data available
Boiling point	:	not determined
Flash point	:	not determined
Evaporation rate	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0.95 g/cm3
Solubility(ies)		
Water solubility	:	emulsifiable
Solubility in other solvents	:	not determined
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	not determined
Thermal decomposition	:	Not applicable
Viscosity		
Viscosity, kinematic	:	> 25 mm2/s (40 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	Heating can release vapours which can be ignited.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

Distillates (petroleum), hydrotreated light:

Acute oral toxicity	:	LD50 Rat: > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 Rat: > 4.6 mg/l Exposure time: 6 h
Acute dermal toxicity	:	LD50 Rat: > 2,000 mg/kg

4-Nonylphenol branched, ethoxylated:

Acute oral toxicity	:	LD50 Rat: 5,000 mg/kg
Acute dermal toxicity	:	LD50 Rabbit: 2,573 mg/kg

Skin corrosion/irritation

Product:

Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: Irritating to eyes.

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Distillates (petroleum), hydrotreated light:
MEA Tallate:
4-Nonylphenol branched, ethoxylated:
.alpha.-(Nonylphenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl)phosphate:

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information

Product:

Remarks: No data available

Components:
Distillates (petroleum), hydrotreated light:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water	:	Remarks: No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life.

Components:
Distillates (petroleum), hydrotreated light :

Additional ecological information	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IMDG (Vessel):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Cargo Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Passenger Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: TDG (Canada):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA	On TSCA Inventory
DSL	This product contains one or several components that are not on the Canadian DSL nor NDSL.
AICS	Not in compliance with the inventory
NZIoC	Not in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	Not in compliance with the inventory

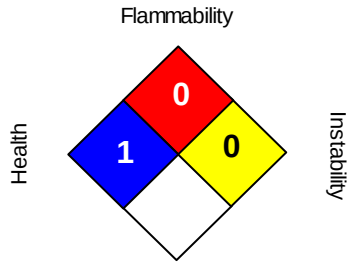
Inventory Acronym and Validity Area Legend:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



Special hazard.

HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA GHS Label Information:

Hazard pictograms :

Signal word : **Warning:**
Hazard statements : Causes serious eye irritation.
Precautionary statements :

Prevention: Wear eye protection/ face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Version:	2.1
Revision Date:	07/09/2015
Print Date:	10/12/2015

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Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®,Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®,Rexodan®, Mykal™, and a number of private labeled brands.

PRODUCT SAFETY DATA SHEET

Print date: *08 Mar 2007*

1. PRODUCT AND COMPANY IDENTIFICATION

Item Number / Product code: **0100746**

Product name: **ZUD® HEAVY DUTY CLEANSER (POWDER)**

Validation / Revision Date: **08 March 2007**

EPA Identifier: **Not applicable.**

Formula Number: **1107-180 (0100746)**

UPC Number and Size: **62338-00710 (6 oz.)**
62338-00750 (16 oz.)

Product Description: Heavy duty powder cleanser for use on non-porous surfaces such as porcelain, ceramic cookware, stainless steel, aluminum, chrome, pewter, brass, bronze and copper.

Manufacturer: Reckitt Benckiser North America, Inc.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225

Emergency telephone number: 1-800-228-4722 (U.S.)

Transportation Emergencies: 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside the U.S. and Canada (North America), call: 703-527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

Components:
OXALIC ACID, DIHYDRATE
6153-56-6
PUMICE
1332-09-8

Wt %	ACGIH:	OSHA:
5-10	1 mg/m^3 TWA (TLV); 2 mg/m^3 STEL	1 mg/m^3 TWA (PEL)
15-20	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: EYE AND SKIN IRRITANT.
HARMFUL IF SWALLOWED!
DO NOT get in eyes, on skin or on clothing.
DO NOT ingest.
May be a respiratory irritant. Avoid breathing dust. Use in a well-ventilated area.
Wash hands with soap and water after handling.
DO NOT use with chlorine bleach or other household cleaner products as toxic fumes may result.
Contains Calcium Sulfate Dihydrate and Oxalic Acid.

KEEP OUT OF REACH OF CHILDREN

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Skin contact: If on skin, wash the product off with soap and water. If irritation develops, seek the care of a physician.

Eye contact: In case of eye contact, hold eyes open and IMMEDIATELY rinse eyes thoroughly with plenty of water. Remove any contact lenses and continue rinsing for at least 15 minutes. If irritation occurs or persists, get medical attention.

Ingestion: If swallowed, rinse mouth and drink a glass of water. If symptoms persist, get medical attention. Never give an unconscious person anything to ingest.

Notes to physician: Contains Calcium Sulfate Dihydrate and Oxalic Acid.

Aggravated Medical Conditions: May aggravate pre-existing upper respiratory and lung diseases (Bronchitis, Emphysema and Asthma).
May aggravate pre-existing skin diseases (Rashes and Dermatitis).

5. FIRE-FIGHTING MEASURES

Flash point: Not applicable (Powder).

Flammability Limits in Air:
Lower: No information available.
Upper: No information available.

Autoignition temperature: No information available.

Suitable extinguishing media: As suitable for surrounding fire.

Extinguishing media which must not be used for safety reasons: No information available.

Specific hazards: Contains Calcium Sulfate Dihydrate and Oxalic Acid.

Unusual hazards: Oxalic Acid may generate Formic Acid and Carbon Monoxide under fire conditions.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus, pressure-demand, MSHA / NIOSH (approved or equivalent) and full protective gear.

Specific methods: Standard procedure for chemical fires.

NFPA:	**Health:** 2	**Flammability:** 0	**Instability:** 0
HMIS:	**Health:** 2	**Flammability:** 0	**Reactivity:** 0

Key: Personal Protection Index = B.
(Also see Sections 3 & 8)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation.

Environmental precautions: Do not allow material to contaminate ground water system.

Methods for cleaning up: Small spills: Sweep up, minimizing airborne dust. Place into a paper or plastic bag and discard in dry trash. Remaining spill residues of dust may be wiped up with a wet paper towels or flushed into sink or sanitary sewer.

Large spills:
Wear rubber gloves and appropriate eye protection.
Appropriate dust particle face masks, supplied air or self-contained breathing apparatus (SCBA) is required to be worn by all emergency responders and clean-up personnel.

Large spills: Collect with a minimum of dust, place in a suitable container for disposal according to local, state, provincial and federal regulations.

7. HANDLING AND STORAGE

Handling: WARNING: EYE AND SKIN IRRITANT!
Use with adequate ventilation.
For occupational exposures wear appropriate eye and skin protection where the potential for splashing exists.
Use only as directed!
Read container label instructions carefully.

Safe handling advice: Avoid dust formation.
Use only in well-ventilated areas.
Do not breathe dust.

Storage: Store containers in an upright position in a cool, dry area, inaccessable to small children and pets.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: For occupational exposures, ensure adequate ventilation.

Personal Protective Equipment

Respiratory protection: None required under normal use conditions.
Use in a well-ventilated area.
In case of insufficient ventilation wear suitable respiratory equipment.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of airborne particles (dust) generated by this product during a spill or other clean-up operations.

Hand protection:	Skin irritant. Wear impervious gloves where the potential for contact with the powder is possible. Emergency responders should wear impermeable gloves.
Skin and body protection:	Usual safety precautions while handling the product will provide adequate protection against injury or irritation. Follow product label instructions.
Eye protection:	Eye irritant. Avoid contact with eyes. Appropriate eye protection such as: Safety glasses with side shields, chemical goggles or full face shield for occupational exposures. Emergency responders should wear full eye and face protection.
Hygiene measures:	Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Powder.
Appearance:	Free flowing wettable powder.
Colour:	Off-white.
Odour:	None.
pH:	1.5 - 2.5 (3% aqueous slurry)
Flash point:	Greater than 93º C (>200º F)
Specific gravity:	No information available.
Density:	0.72 - 0.88 g/cc
Vapour pressure:	Not determined.
Solubility:	Practically insoluble.

Explosion limits:

- upper:	No data available.
- lower:	No data available.

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Polymerization:	Hazardous polymerisation does not occur.
Hazardous decomposition products:	Oxalic acid may generate formic acid and carbon monoxide under fire conditions.
Materials to avoid:	Do not mix with chlorine bleach or other cleaning agents.
Conditions to avoid:	Store away from excessive heat and moisture.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information:

Product Information

LC50/inhalation/4h/rat =	No information available.
LD50/dermal/rabbit =	No information available.
LD50/oral/rat =	No information available.

Local effects

Skin irritation:	Skin irritant.

Eye irritation: Eye irritant.

Inhalation Avoid breathing airborne dust.

Ingestion May be harmful if swallowed. See Section 4 for First Aid instructions.

Sensitization Not expected to be a skin sensitiser.

Chronic toxicity: No information available.

Specific effects

Carcinogenic effects: Not listed as carcinogenic by OSHA, NTP or IARC.

Mutagenic effects: No information available.

Reproductive toxicity: No information available.

Target organ effects: No information available.

Information is based on data on the components and the toxicology of similar products.

12. ECOLOGICAL INFORMATION

Product Information

Aquatic toxicity: No information available.

Component Information:

OXALIC ACID, DIHYDRATE
6153-56-6 (5-10)

Ecotoxicity: = 1350 mg/L LC50 mosquito fish static
= 4000 mg/L LC50 bluegill static

Other information:

Ozone depletion potential; ODP; (R-11 = 1) = No information available.
Global warming potential (GWP) = No information available.

Additional ecological information: No information available.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Empty container can be disposed of as household trash or rinsed and recycled where appropriate.

Waste Disposal: Small amounts of powder waste: Wipe up with a wet paper towel and discard absorbed material in trash collection and flush waste residue to sink or sanitary sewer.

Wear appropriate personal protective equipment when cleaning or handling waste material. Avoid creating airborne dust during the clean-up operations. Use HEPA filtered Vacuum or wet cleaning operations.
Large amounts of powder waste: Dispose of in accordance with local, state, provincial and federal regulations.

14. TRANSPORT INFORMATION

UN / Id No: **Not applicable**

DOT:

Classification:	Not a DOT regulated material. (United States)
Proper shipping name:	Not applicable.
U.S. DOT - Hazard Class:	Not applicable.
Subsidiary risk:	Not applicable.
Packing Group:	Not applicable.
DOT RQ (lbs):	Not applicable.
ERG No:	Not applicable.

TDG (Canada):

Classification:	Not regulated under TDG
Proper shipping name:	Not applicable.
Status:	Not applicable.
Packing Group:	Not applicable.

IMDG / IMO

Classification:	Not regulated under IMDG
Proper shipping name:	Not applicable.
Class:	Not applicable.
Subsidiary Risk:	Not applicable.
Packing group:	Not applicable.
IMDG page:	Not applicable.
Marine pollutant:	Not applicable.
EMS:	Not applicable.
MFAG:	See Guide.

ADR / RID

Classification:	Not applicable.
Proper shipping name:	Not applicable.
Class:	Not applicable.
Subsidiary risk:	Not applicable.
Packing Group:	Not applicable.
ADR/RID-labels:	Not applicable
Hazard Identification Number:	Not applicable.
CEFIC Tremcard No:	Not applicable.

ICAO / IATA:

Classification:	Not regulated under ICAO / IATA
Proper shipping name:	Not applicable.
Class:	Not applicable.
Subsidiary Risk:	Not applicable
Packing Group:	Not applicable.
Maximum quantity	Not applicable.

15. REGULATORY INFORMATION

Components:	PICCS:	TSCA:	DSL:	NDSL:	ENCS:	CHINA:	AICS:	EINECS-No
OXALIC ACID, DIHYDRATE						Present	Present	205-634-3

U.S. Regulations:

Components: *OXALIC ACID, DIHYDRATE - 6153-56-6*
NJRTK: Not Listed.
California Proposition 65 -
CERCLA/SARA 313: None
Components: *PUMICE - 1332-09-8*
NJRTK: Not Listed.

California Proposition 65 - None.
CERCLA/SARA 313: None

Canada

WHMIS hazard class: Not determined.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):

HMIS (U.S.A.):

Health Hazard	**2**
Fire Hazard	**0**
Reactivity	**0**
Personal Protection	**B**

Reason for revision: This is a new formulation of an existing product.

Additional advice: This product should only be used as directed on the label and for the purpose intended.

Prepared by:

Reckitt Benckiser (U.S.) Inc.
Product Safety Department
1 Philips Parkway
Montvale, New Jersey 07646-1810 USA.
Phone: 201-573-6391
FAX: 201-476-7770.

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