



# MATERIAL SAFETY DATA SHEET

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## Section 1: Product & Company Identification

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**Product Name:** Universal 2-Cycle Oil

**Product Number (s):** SL2261, SL2262

**Product Use:** 2-cycle engine oil

**Manufacturer / Supplier Contact Information:**

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

[www.crcindustries.com](http://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](http://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](http://www.crc-mexico.com)

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

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## Section 2: Hazards Identification

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Emergency Overview

As defined by OSHA's Hazard Communication Standard, this product is nonhazardous.

Appearance & Odor: Blue oily liquid, faint petroleum odor

**Potential Health Effects:**

**ACUTE EFFECTS:**

**EYE:** Direct contact may cause irritation and redness.

**SKIN:** Slightly irritating. Repeated or prolonged contact can result in drying of the skin.

**INHALATION:** Oil mist can irritate the airways and lungs.

**INGESTION:** May cause stomach pain or vomiting. Main hazard, if ingested, is aspiration into the lungs and subsequent pneumonitis.

**CHRONIC EFFECTS:** Unknown

**TARGET ORGANS:** Unknown

**Medical Conditions Aggravated by Exposure:** Unknown

See Section 11 for toxicology and carcinogenicity information on product ingredients.

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### Section 3: Composition/Information on Ingredients

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COMPONENT	CAS NUMBER	% by Wt.
Solvent-refined heavy naphthenic distillates	64741-96-4	40 – 60
Solvent-dewaxed petroleum oils	64742-62-7	20 - 40
Stoddard solvent	8052-41-3	10 – 20
Small engine oil additives	proprietary	1 – 5
Mineral oil, severely refined	proprietary	1 - 5

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### Section 4: First Aid Measures

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- 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. Get medical attention immediately. Never give anything by mouth to an unconscious person.

*Note to Physicians:* Treat symptomatically.

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### Section 5: Fire-Fighting Measures

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**Flammable Properties:** As defined by OSHA, this product is a Class III Combustible Liquid.

Flash Point: > 151F (COC)	Upper Explosive Limit: ND
Autoignition Temperature: ND	Lower Explosive Limit: ND

**Fire and Explosion Data:**

Suitable Extinguishing Media: Foam, dry chemicals, sand, dolomite, carbon dioxide

Products of Combustion: Acrid smoke/fumes and oxides of carbon, sulfur

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. Volume and pressure of material increases strongly when heated.

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### Section 6: Accidental Release Measures

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Personal Precautions: Use personal protection recommended in Section 8. Minimize skin contact. Avoid breathing vapors.

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: Remove all sources of ignition. 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: Do not reuse container. Ventilate well and avoid breathing vapors. Do not store or mix with strong oxidizers. Avoid strong heating. Keep away from sparks and open flame. Avoid contact with skin. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Containers should be tightly closed while in storage. Store away from sources of ignition, strong acids and oxidizers.

Aerosol Storage Level: NA

## **Section 8: Exposure Controls/Personal Protection**

### **Exposure Guidelines:**

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Solvent-refined heavy naphthenic distillates	5*	NE	5*	10*	NE		mg/m <sup>3</sup>
Solvent-dewaxed petroleum oils	5*	NE	5*	10*	NE		mg/m <sup>3</sup>
Stoddard solvent	500	NE	100	NE	NE		ppm
Small engine oil additives	NE	NE	NE	NE	NE		
Mineral oil, severely refined	5*	NE	5*	10*	NE		mg/m <sup>3</sup>
N.E. – Not Established      (c) – ceiling      (s) – skin      (v) – vacated      * – oil mist							

### **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 PVC. 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: blue  
 Odor: mild petroleum  
 Odor Threshold: ND  
 Specific Gravity: 0.883  
 Initial Boiling Point: > 300°F  
 Freezing Point: ND  
 Vapor Pressure: ND  
 Vapor Density: > 1 (air = 1)  
 Evaporation Rate: slow  
 Solubility: insoluble in water  
 Coefficient of water/oil distribution: ND  
 pH: NA  
 Volatile Organic Compounds: wt %: 14.0      g/L: 124.0      lbs./gal: 1.09

**Section 10: Stability and Reactivity**

Stability: Stable  
 Conditions to Avoid: Sources of ignition, heat  
 Incompatible Materials: Strong acids and oxidizers  
 Hazardous Decomposition Products: Oxides of carbon, sulfur  
 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:**

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Solvent-refined heavy naphthenic distillates	No data	No data	No data
Solvent-dewaxed petroleum oils	No data	No data	No data
Stoddard solvent	> 2000 mg/kg	> 3160 mg/kg	3.6 mg/L
Small engine oil additives	No data	No data	No data
Mineral oil, severely refined	No data	No data	No data

**Chronic Toxicity:**

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
Solvent-refined heavy naphthenic distillates	No	No	No	Unknown	Unknown
Solvent-dewaxed petroleum oils	No	No	No	Unknown	Unknown
Stoddard solvent	No	No	No	No	Unknown
Small engine oil additives	No	No	No	Unknown	Unknown
Mineral oil, severely refined	No	No	No	Unknown	Unknown

E – Eye	S – Skin	R - Respiratory
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<u>Reproductive Toxicity:</u>	No information available
<u>Teratogenicity:</u>	No information available
<u>Mutagenicity:</u>	No information available
<u>Synergistic Effects:</u>	No information available
<u>Other:</u>	IARC has determined in reviewing cancer prevalence of exposed workers that the carcinogenic activity of refined oils is related to the severity of processing of the base oil. The base oils in this product are severely refined and contain < 3% DMSO extractable total polycyclic aromatic compound (PAC) per IP 346.

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## **Section 12: Ecological Information**

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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

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## **Section 13: Disposal Considerations**

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**Waste Classification:** This product is not a RCRA hazardous waste as packaged. (See 40 CFR Part 261.20 – 261.33) Used oil should be collected and handled in accordance with 40 CFR Part 279. Used oil that is mixed with hazardous waste may be subject to regulation as hazardous waste. 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.

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## **Section 14: Transport Information**

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US DOT (ground):	Not Regulated
ICAO/IATA (air):	Not Regulated
IMO/IMDG (water):	Not Regulated
Special Provisions:	None

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## **Section 15: Regulatory Information**

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### **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	No
Acute Health Hazard	No
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:  
None

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

**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: 8052-41-3  
Pennsylvania: 8052-41-3  
Massachusetts: 8052-41-3  
Rhode Island : 8052-41-3

**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: B3

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

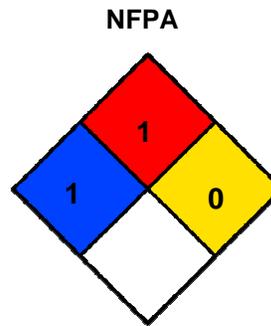
**European Union Regulations:**

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:	1
Reactivity:	0
PPE:	B



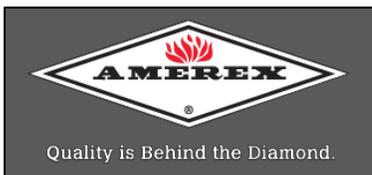
Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick  
 CRC #: 720030  
 Revision Date: 11/25/2008

Changes since last revision: MSDS reformatted to meet the requirements of the Canadian Controlled Products Regulations.

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.

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| ACGIH: American Conference of Governmental Industrial Hygienists | NA: Not Applicable  |
| CAS: Chemical Abstract Service                                   | ND: Not Determined  |
| CFR: Code of Federal Regulations                                 | NIOSH: National Institute of Occupational Safety & Health |
| DOT: Department of Transportation                                | NFPA: National Fire Protection Association                |
| DSL: Domestic Substance List                                     | NTP: National Toxicology Program                          |
| g/L: grams per Liter   | OSHA: Occupational Safety and Health Administration       |
| HMIS: Hazardous Materials Identification System                  | PMCC: Pensky-Martens Closed Cup                           |
| IARC: International Agency for Research on Cancer                | PPE: Personal Protection Equipment                        |
| IATA: International Air Transport Association                    | ppm: Parts per Million                                    |
| ICAO: International Civil Aviation Organization                  | RoHS: Restriction of Hazardous Substances                 |
| IMDG: International Maritime Dangerous Goods                     | STEL: Short Term Exposure Limit                           |
| IMO: International Maritime Organization                         | TCC: Tag Closed Cup                                       |
| lbs./gal: pounds per gallon                                      | TWA: Time Weighted Average                                |
| LC: Lethal Concentration   | WHMIS: Workplace Hazardous Materials Information System   |
| LD: Lethal Dose  |   |



# 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](http://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 313 320 333	May be harmful if swallowed May be harmful in contact with skin Causes eye irritation May be harmful if inhaled
Environmental	None	
Precautionary:		
General	P101 102	If medical advice is needed, have product container or label at hand Keep out of reach of children
Prevention	234 251 261 264 270 281 285	Keep in original container Pressurized container; do not pierce or burn, even after use Avoid breathing dust Wash hands and face thoroughly after handling Do not eat, drink, or smoke when using this product Use personal protective equipment as required In case of inadequate ventilation, wear respiratory protection
Response	P301+322+331 302+352 304+313+341  305+351+338  308+313 337+313	If swallowed, drink 2-3 glasses of water and do not induce vomiting If on skin, wash with soap and water 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 If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, and continue to rinse If exposed or concerned, get medical advice/attention 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
<u>Explosion Data:</u>	
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 <sup>3</sup> Respirable fraction, 5 mg/m <sup>3</sup>	PNOC Total dust, 10 mg/m <sup>3</sup> Respirable fraction, 3 mg/m <sup>3</sup>	PNOC Total dust, 4 mg/m <sup>3</sup> Respirable fraction, 1.5 mg/m <sup>3</sup>	NA
Ammonium Sulfate	PNOC** Total dust, 15 mg/m <sup>3</sup> Respirable fraction, 5 mg/m <sup>3</sup>	PNOC Total dust, 10 mg/m <sup>3</sup> Respirable fraction, 3 mg/m <sup>3</sup>	PNOC Total dust, 4 mg/m <sup>3</sup> Respirable fraction, 1.5 mg/m <sup>3</sup>	NA
Mica	6 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	NR	NA
Fullers Earth	PNOC** Total dust, 15 mg/m <sup>3</sup> Respirable fraction, 5 mg/m <sup>3</sup>	PNOC Total dust, 10 mg/m <sup>3</sup> Respirable fraction, 3 mg/m <sup>3</sup>	PNOC Total dust, 4 mg/m <sup>3</sup> Respirable fraction, 1.5 mg/m <sup>3</sup>	
Silicone oil	NR**	NR	NR	NA
Calcium carbonate	PNOC Total dust, 15 mg/m <sup>3</sup> Respirable fraction, 5 mg/m <sup>3</sup>	PNOC Total dust, 10 mg/m <sup>3</sup> Respirable fraction, 3 mg/m <sup>3</sup>	-----	NA
Amorphous silica	80 mg/m <sup>3</sup> % silica	10 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	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:  
Skin and Body Protection:  
Respiratory Protection:

Tightly fitting safety goggles  
Wear protective gloves/coveralls  
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 <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> : 115.03; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : 132.14
Odor:	Odorless
Odor Threshold:	No information available
Decomposition Temperature °C:	100 - 120
Freezing Point °C:	No information available
Initial Boiling Point °C:	No information available
Physical State:	Crystalline Powder

pH:	Mixture approximately 4 to 5; NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> : 4.2 in 0.2 molar solution; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : 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:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> : 190; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : 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:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> : 1.80; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : 1.77
Solubility:	Coated-Not Immediately Soluble in Water
Partition Coefficient:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: -4.11; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: -0.48
Viscosity:	Not Applicable

NOTE: NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> – Monoammonium Phosphate; (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>: – 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.
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Symptoms:

Immediate:

Inhalation:

Eyes:

Skin:

Delayed:

Acute Toxicity:

Chronic Toxicity:

Short-term Exposure:

Long-term Exposure:

Irritation, coughing.

Irritation.

Irritation.

Symptoms appear to be relatively immediate

Relatively non-toxic.

None known.

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:

Target Organs and Effects (TOST):

This product’s ingredients are not known to have reproductive or teratogenic effects.

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	Carcinogenicity	Reproductive	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:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: 0.693 (Rapid); (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: 0.684 (Rapid)
Anaerobic biodegradation probability:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: 0.398 (Slow); (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: 0.398 (Slow)
Bioaccumulation potential:	Low.
Bioconcentration factor:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> : 3.16 L/kg; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : 3.16 L/kg (wet weight)
Bioaccumulation:	Extent unknown.
Mobility in soil:	Slow evaporation rate; water soluble, may leach to groundwater
Log Koc:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: -1.25; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: 1.35
Log Koa:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: 16.72; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: 20.10
Log Kaw:	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> Est: -20.86; (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> : Est: -19.62

NOTE: NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> – Monoammonium Phosphate; (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>: – 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

<b>Section 16. OTHER INFORMATION</b>
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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

**Airgas**

Acetylene

## Section 1. Identification

GHS product identifier	: Acetylene
Chemical name	: acetylene
Other means of identification	: Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene
Product use	: Synthetic/Analytical chemistry.
Synonym	: Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene
SDS #	: 001001
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 - Compressed gas

### GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: Extremely flammable gas.  
May form explosive mixtures with air.  
Contains gas under pressure; may explode if heated.  
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. Fusible plugs in top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15psig (103kpa). Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. 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.

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.

Acetylene

### Section 3. Composition/information on ingredients

Substance/mixture : Substance  
Chemical name : acetylene  
Other means of identification : Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene

#### CAS number/other identifiers

CAS number : 74-86-2  
Product code : 001001

Ingredient name	%	CAS number
acetylene	100	74-86-2

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 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** : Flush contaminated skin with plenty of 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** : 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.

## 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. 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.

**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
acetylene	NIOSH REL (United States, 10/2013). CEIL: 2882 mg/m <sup>3</sup> CEIL: 2500 ppm

**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: 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. 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.
- Color** : Colorless.
- Molecular weight** : 26.04 g/mole
- Molecular formula** : C<sub>2</sub>H<sub>2</sub>
- Melting/freezing point** : -81°C (-113.8°F)
- Critical temperature** : 35.25°C (95.5°F)
- Odor** : Mild. Etheral.
- Odor threshold** : Not available.
- pH** : Not available.
- Flash point** : Closed cup: -18.15°C (-0.67°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, heat and oxidizing materials.
- Lower and upper explosive (flammable) limits** : Lower: 2.3%  
Upper: 100%
- Vapor pressure** : 635 (psig)
- Vapor density** : 0.907 (Air = 1)
- Specific Volume (ft<sup>3</sup>/lb)** : 14.7058
- Gas Density (lb/ft<sup>3</sup>)** : 0.0691
- Relative density** : Not applicable.
- Solubility** : Not available.
- Solubility in water** : 1.2 g/l
- Partition coefficient: n-octanol/water** : 0.37
- Auto-ignition temperature** : 305°C (581°F)
- Decomposition temperature** : Not available.
- SADT** : 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** : 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.

#### 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.

## 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 <sub>ow</sub>	BCF	Potential
acetylene	0.37	-	low

### Mobility in soil

- Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Acetylene

## 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 Algas-owned pressure vessels should be returned to Algas. 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	UN1001	UN1001	UN1001	UN1001	UN1001
UN proper shipping name	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	<b>Limited quantity</b> Yes. <b>Packaging instruction</b> Passenger aircraft Quantity limitation: Forbidden.  Cargo aircraft Quantity limitation: 15 kg	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). <b>Explosive Limit and Limited Quantity Index</b> 0  <b>Passenger Carrying Ship Index</b> 75  <b>Passenger Carrying Road or Rail Index</b> Forbidden  <b>Special provisions</b> 38	-	-	<b>Passenger and Cargo Aircraft</b> Quantity limitation: 0 Forbidden <b>Cargo Aircraft Only</b> Quantity limitation: 15 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.

**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: acetylene

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
acetylene	100	Yes.	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 : This material is listed or exempted.  
 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.

### Canada

WHMIS (Canada) : Class A: Compressed gas.

## Section 15. Regulatory information

**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.  
Class F: Dangerously reactive material.

### Hazardous Material Information System (U.S.A.)

Health	1
Flammability	4
Physical hazards	2

**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.)



Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

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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
Fam. Gas 1, H220 Press. Gas Comp. Gas, H280	Expert judgment According to package

### History

Date of printing : 3/8/2016  
Date of issue/Date of revision : 3/8/2016  
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.



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Air Tool Oil</b>
<b>Other means of identification</b>	
<b>Product code</b>	SL2531, SL2533
<b>Recommended use</b>	Lubricant for pneumatic equipment
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufactured or sold by:</b>	
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	215-674-4300
<b>Technical Assistance</b>	800-521-3168
<b>Customer Service</b>	800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	800-424-9300 (US) 703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>OSHA defined hazards</b>	Not classified.
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	The mixture does not meet the criteria for classification.
<b>Precautionary statement</b>	
<b>Prevention</b>	Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use. Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

## 3. Composition/information on ingredients

### Mixtures

<b>Chemical name</b>	<b>Common name and synonyms</b>	<b>CAS number</b>	<b>%</b>
Distillates (petroleum), Hydrotreated Light Naphthenic		64742-53-6	90 - 100
Distillates (petroleum), solvent-refined heavy naphthenic		64741-96-4	3 - 5
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts		68649-42-3	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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#### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur. If ingestion of a large amount does occur, call a poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Fire fighting equipment/instructions</b>	Cool containers exposed to heat with water spray and remove container, if no risk is involved.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

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#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	<p>The product is immiscible with water and will spread on the water surface.</p> <p>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. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.</p>
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

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#### 7. Handling and storage

<b>Precautions for safe handling</b>	Wear appropriate personal protective equipment. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. When using, do not eat, drink or smoke. Wash contaminated clothing before reuse. Use appropriate container to avoid environmental contamination. For product usage instructions, please see the product label.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep away from heat and sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep container tightly closed. 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 light naphthenic (CAS 64742-53-6)	PEL	5 mg/m <sup>3</sup>	Mist.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	PEL	2000 mg/m <sup>3</sup> 500 ppm	Mist.
		5 mg/m <sup>3</sup>	
		2000 mg/m <sup>3</sup> 500 ppm	

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	Ceiling	1800 mg/m <sup>3</sup>	
	STEL	10 mg/m <sup>3</sup>	Mist.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	Ceiling	1800 mg/m <sup>3</sup>	
	STEL	10 mg/m <sup>3</sup>	Mist.

### 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. General ventilation normally adequate.

### 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).

##### 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

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

Material name: Air Tool Oil

SL2531, SL2533 Version #: 01 Issue date: 10-23-2015

SDS US

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<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Amber.
<b>Odor</b>	Mild petroleum.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	680 °F (360 °C) estimated
<b>Flash point</b>	320 °F (160 °C) Cleveland Open Cup
<b>Evaporation rate</b>	Slow.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	> 1 (air = 1)
<b>Relative density</b>	0.9 - 0.92
<b>Solubility (water)</b>	Insoluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	500 °F (260 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (kinematic)</b>	22.5 - 27.5 mm <sup>2</sup> /s (104 °F (40 °C))
<b>Percent volatile</b>	Not available.

## 10. Stability and reactivity

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<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Heat, flames and sparks. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Carbon oxides.

## 11. Toxicological information

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### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged or excessive inhalation may cause respiratory tract irritation.
<b>Skin contact</b>	Prolonged skin contact may cause temporary irritation. Repeated exposure may cause skin dryness or cracking.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

<b>Acute toxicity</b>	Not available.
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Product	Species	Test Results
Air Tool Oil		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	5100 mg/kg estimated
<b>Inhalation</b>		
LC50	Rat	2295 mg/m <sup>3</sup> , 4 hours estimated
<b>Oral</b>		
LD50	Rat	5097 mg/kg estimated

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Not available.	
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>	
Not available.	
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not classified.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.
<b>Further information</b>	This product has no known adverse effect on human health.

## 12. Ecological information

<b>Ecotoxicity</b>	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.		
<b>Product</b>	<b>Species</b>		<b>Test Results</b>
Air Tool Oil			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	99.9848 mg/l, 48 hours estimated
Fish	LC50	Fish	549.3577 mg/l, 96 hours estimated
<b>Components</b>	<b>Species</b>		<b>Test Results</b>
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS 68649-42-3)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	1 - 5 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	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

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<b>Disposal of waste from residues / unused products</b>	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. Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	Not regulated.
<b>Contaminated packaging</b>	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

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#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

### 15. Regulatory information

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**US federal regulations** This product is not known to be 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**

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS 68649-42-3)

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS 68649-42-3) 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 Light Naphthenic (CAS 64742-53-6)  
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Distillates (petroleum), Hydrotreated Light Naphthenic (CAS 64742-53-6)

Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)

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

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS 68649-42-3)

**US. Rhode Island RTK**

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (CAS 68649-42-3)

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

Not listed.

**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))** Not determined**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)	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 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**

<b>Issue date</b>	10-23-2015
<b>Prepared by</b>	Allison Cho
<b>Version #</b>	01
<b>Further information</b>	Not available.
<b>HMIS® ratings</b>	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: B
<b>NFPA ratings</b>	Health: 1 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.

**MATERIAL SAFETY  
DATA SHEET**

BASF Corporation Chemicals Division  
100 Cherry Hill Road, Parsippany, New Jersey 07054. (201) 316-3000

**BASF**

PRODUCT NUMBER: 581960 374-5 Antifreeze

**SECTION I**

\*Registered Trademark

TRADE NAME: 374-5 Antifreeze

CHEMICAL NAME: Inhibited Ethylene Glycol

SYNONYMS: Permanent Antifreeze,  
Engine Coolant

FORMULA: Mixture

CHEMICAL FAMILY: Glycols

MOL. WGT.: N/A

**SECTION II - INGREDIENTS**

COMPONENT	CAS NO.	%	PEL/TLV - SOURCE
<b>374-5 Antifreeze</b>		<b>100</b>	Not established
Contains:			
Ethylene Glycol	107-21-1	<95	50 ppm <del>Cd</del> g ACGIH
Phosphates	7758-11-4	< 2	Not established
Nitrates	7631-99-4	<0.5	Not established
Silicon Compounds	6834-92-0	<0.1	Not established
Water		< 4	
Mercaptobenzothiazole	2492-26-4	<0.5	Not established
Tolyltriazole	29385-43-1	<0.5	Not established
SARA Title III Sect. 313: Listed.			

**SECTION III - PHYSICAL DATA**

BOILING/MELTING POINT @760 mm Hg: 330°F/ -8°F

DH: 0.0-11.0

VAPOR PRESSURE mm Hg @20 C: <18

Vapor density: >2 (Air=1)

SPECIFIC GRAVITY OR BULK DENSITY: 1.128

SOLUBILITY IN WATER: Infinite

APPEARANCE: Green Dyed Liquid

ODOR: Glycol

INTENSITY: Faint

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (TEST METHOD): 250°F C.O.C.

AUTOIGNITION TEMP: 775°F

FLAMMABILITY LIMITS IN AIR (% BY VOL)

LOWER: N/A

UPPER: N/A

EXTINGUISHING  
MEDIUM

Use water fog, alcohol foam, CO2 or dry chemical  
extinguishing media. NFPA: 1/1/0

SPECIAL  
FIREFIGHTING  
PROCEDURES

Firefighters should be equipped with self-contained  
breathing apparatus and turnout gear. Avoid breathing  
vapors or fumes of heated or burning product.

UNUSUAL FIRE  
AND EXPLOSION  
HAZARDS

Vapors from heated (above flash point) product may travel to  
a source of ignition and flash back.

**EMERGENCY TELEPHONE NUMBER**

CHEMTREC 800-424-9300

201-316-3000

THIS NUMBER IS AVAILABLE DAYS, NIGHTS, WEEKENDS, AND HOLIDAYS

PRODUCT NUMBER: 581960 374-5 Antifreeze

## SECTION V - HEALTH DATA

### TOXICOLOGICAL TEST DATA:

374-5 Antifreeze  
Ethylene Glycol  
Rat, Acute Oral LD50

Rabbit, Primary Skin Irritant 1.88/8.0  
Rabbit, Primary Eye Irritant 2.0/110  
Human, Reported Lethal Dose

### RESULT:

13.8 ml/kg  
Practically non-toxic  
Mildly irritating  
Practically non-irritating  
100 c.c.

### EFFECTS OF OVEREXPOSURE

Contact with this product causes eye and skin irritation.  
Inhalation of the vapors or mists may be irritating to the respiratory tract.  
Ingestion of about 100 ml. of ethylene glycol may result in acute poisoning, which is characterized by severe abdominal disturbances, central nervous system depression and possible respiratory or renal failure.  
Prolonged inhalation of the vapors may cause unconsciousness and increased lymphocyte counts.  
Chronic overexposure may lead to liver degeneration and severe renal damage.  
Animal studies indicate that ethylene glycol may be embryotoxic and teratogenic by the oral and inhalation routes.

### FIRST AID PROCEDURES:

Eyes--Flush eyes with flowing water at least 15 minutes.  
Get medical attention.  
Skin--Wash affected skin areas with soap and water.  
If irritation develops, consult a physician.  
Ingestion--If swallowed, induce vomiting.  
Never give fluids or induce vomiting if the victim is unconscious or having convulsions.  
Get immediate medical attention.  
Inhalation--If inhaled, move to fresh air.  
Aid in breathing, if necessary, and get medical attention.

## SECTION VI - REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: N/A

CHEMICAL INCOMPATIBILITY: N/A.

HAZARDOUS DECOMPOSITION PRODUCTS: N/A

HAZARDOUS POLYMERIZATION: Does not occur

CONDITIONS TO AVOID: N/A

CORROSIVE TO METAL: No

OXIDIZER: No

## SECTION VII - SPECIAL PROTECTION

### RESPIRATORY PROTECTION:

If vapors or mists are generated, wear an approved NIOSH/MSHA organic vapor/mist respirator.

EYE PROTECTION: If splashing can occur, use chemical goggles or full face shield.

PROTECTIVE CLOTHING: Use rubber gloves, apron and shoes. Remove contaminated clothing immediately and wash before reuse.

VENTILATION Local exhaust to control vapors and mists.

OTHER: N/A

PRODUCT NUMBER: 581960 374-5 Antifreeze

**SECTION VIII - ENVIRONMENTAL DATA**

**ENVIRONMENTAL TOXICITY DATA:**

Aquatic toxicity rating: Bluegill (*Lepomis macrochirus*)  
 96 hour Static LC50: 1400 mg/l  
 Insignificant hazard

**SPILL AND LEAK PROCEDURES:**

Spills should be contained, solidified, and placed in suitable containers for disposal. This material is not regulated under RCRA or CERCLA ("Superfund"). Clean up quickly as spills are a slipping hazard.

HAZARDOUS SUBSTANCE SUPERFUND: No RQ (lbs):

**WASTE DISPOSAL METHOD:**

Incinerate or bury in a licensed facility.  
 Do not discharge into waterways. Discharge to sewer systems with prior approvals is acceptable.

HAZARDOUS WASTE 40CFR261: No HAZARDOUS WASTE NUMBER:

**CONTAINER DISPOSAL:**

Dispose of in licensed facility.  
 Recommend crushing or other means to prevent unauthorized reuse.

**SECTION IX - SHIPPING DATA**

D.O.T. PROPER SHIPPING NAME (49CFR172.101-102)

None

HAZARDOUS SUBSTANCE (49CFR CERCLA LIST)

No

REPORTABLE QUANTITY (RQ) None

D.O.T. HAZARD CLASSIFICATION (CFR 172.101-102)

PRIMARY  
None

SECONDARY  
N/A

D.O.T. LABELS REQUIRED (49CFR172.101-102)

None

D.O.T. PLACARDS REQUIRED (CFR 172.504)

None

POISON CONSTITUENT (49CFR172.203(K))

N/A

**BILL OF LADING DESCRIPTION**

Antifreeze Preparations, Proprietary  
 (Ethylene Glycol Base)

CC NO. 332

UN/NA CODE None

DATE PREPARED: 1 / 9 / 87

UPDATED: 5 / 9 / 88

WHILE BASF CORPORATION BELIEVES THE DATA SET FORTH HEREIN ARE ACCURATE AS OF THE DATE HEREOF, BASF CORPORATION 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.

**SECTION X - PRODUCT LABEL****374-5 Antifreeze****WARNING:**

CONTAINS ETHYLENE GLYCOL (CAS No.: 107-21-1).  
CONTACT MAY CAUSE TEMPORARY EYE AND SKIN IRRITATION.  
INGESTION MAY RESULT IN ACUTE POISONING, CHARACTERIZED BY SEVERE ABDOMINAL DISTURBANCES, CENTRAL NERVOUS SYSTEM DEPRESSION AND POSSIBLE RESPIRATORY OR RENAL FAILURE. PROLONGED INHALATION OF VAPORS MAY RESULT IN IRRITATION OR UNCONSCIOUSNESS. CHRONIC OVEREXPOSURE MAY LEAD TO LIVER AND KIDNEY DAMAGE. ETHYLENE GLYCOL WAS TERATOGENIC IN LABORATORY ANIMAL STUDIES.

**FIRST AID:**

- Eyes** - Immediately wash eyes with running water for 15 minutes. If irritation develops, get medical attention.
- Skin** - Wash affected areas with soap and water. Remove contaminated clothing and launder before reuse. If irritation develops, get medical attention.
- Ingestion** - If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.
- Inhalation** - Move to fresh air. Aid in breathing, if necessary and get medical attention.

**HANDLING AND STORAGE:** Keep containers closed. In case of spill, clean up quickly as product is slippery. Wash away small amounts with cool water. Absorb large amounts with absorbent material or dike and pump into drums for proper disposal. Incinerate or bury in an approved landfill under guidance of local EPA. Prevent run-off onto public land or into waterways.

**IN CASE OF FIRE:** Use water fog, alcohol foam, CO2 or dry chemical extinguishing media. Firefighters should be equipped with self-contained breathing apparatus and turnout gear. Vapors from heated product can travel to source of ignition and flash back. Moderate explosion hazard when exposed to flame.

**EMPTY CONTAINERS:** All labeled precautions must be observed when handling, storing and transporting empty containers due to product residues. Do not reuse this container unless it is professionally cleaned and reconditioned.

**DISPOSAL:** Spill material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations. Refer to our Material Safety Data Sheet for specific disposal instructions.

**IN CASE OF CHEMICAL EMERGENCY:** Call CHEMTREC day or night for assistance and information concerning spilled material, fire, exposure and other chemical accidents. 800-424-9300.

**ATTENTION:** This product is sold solely for use by industrial institutions.

Refer to our Technical Bulletin and Material Safety Data Sheet regarding safety, usage, applications, hazards, procedures and disposal of this product. Consult your supervisor for additional information.

CAS No.: 107-21-1; 7758-11-4; 7831-99-4; 8834-92-0; 2492-26-4; 29385-43-1.  
Made in U.S.A.  
Industrial and Performance Chemicals  
0188

**Material Safety Data Sheet****1. MATERIAL AND COMPANY IDENTIFICATION**

**Material Name** : SHELL FORMULASHELL® Automatic Transmission Fluid

**Manufacturer/Supplier** : SOPUS Products  
PO Box 4427  
Houston, TX 77210-4427  
USA

**MSDS Request** : 877-276-7285

**Emergency Telephone Number**  
**Spill Information** : 877-242-7400  
**Health Information** : 877-504-9351

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Highly refined mineral oils and additives.

The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

**3. HAZARDS IDENTIFICATION**

<b>Emergency Overview</b>	
<b>Appearance and Odour</b>	: May be dyed. Liquid at room temperature. Slight hydrocarbon.
<b>Health Hazards</b>	: Not classified as dangerous for supply or conveyance.
<b>Safety Hazards</b>	: Not classified as flammable but will burn.
<b>Environmental Hazards</b>	: Not classified as dangerous for the environment.

**Health Hazards** : Not expected to be a health hazard when used under normal conditions.

**Health Hazards**  
**Inhalation** : Under normal conditions of use, this is not expected to be a primary route of exposure.

**Skin Contact** : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

**Eye Contact** : May cause slight irritation to eyes.

**Ingestion** : Low toxicity if swallowed.

**Other Information** : Used oil may contain harmful impurities.

**Signs and Symptoms** : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

**Aggravated Medical Condition** : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

**Environmental Hazards** : Not classified as dangerous for the environment.

**Additional Information** : Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous

**Material Safety Data Sheet**

chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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**4. FIRST AID MEASURES**

- General Information** : Not expected to be a health hazard when used under normal conditions.
- Inhalation** : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
- Skin Contact** : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
- Eye Contact** : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
- Ingestion** : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
- Advice to Physician** : Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

Clear fire area of all non-emergency personnel.

- Flash point** : > 176.67 °C / 350.01 °F (COC)
- Upper / lower Flammability or Explosion limits** : Typical 1 - 10 %(V)(based on mineral oil)
- Auto ignition temperature** : > 320 °C / 608 °F
- Specific Hazards** : Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
- Suitable Extinguishing Media** : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
- Unsuitable Extinguishing Media** : Do not use water in a jet.
- Protective Equipment for Firefighters** : Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

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**6. ACCIDENTAL RELEASE MEASURES**

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

- Protective measures** : Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
- Clean Up Methods** : Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay,

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**Additional Advice** : sand or other suitable material and dispose of properly.  
: Local authorities should be advised if significant spillages cannot be contained.

**7. HANDLING AND STORAGE**

**General Precautions** : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

**Handling** : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

**Storage** : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

**Recommended Materials** : For containers or container linings, use mild steel or high density polyethylene.

**Unsuitable Materials** : PVC.

**Additional Information** : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Occupational Exposure Limits**

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	ACGIH	STEL(Mist.)		10 mg/m3	

**Exposure Controls** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

**Personal Protective Equipment** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

**Respiratory Protection** : 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 engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker

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health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].

- Hand Protection** : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
- Eye Protection** : Wear safety glasses or full face shield if splashes are likely to occur.
- Protective Clothing** : Skin protection not ordinarily required beyond standard issue work clothes.
- Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
- Environmental Exposure Controls** : Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : May be dyed. Liquid at room temperature.
- Odour : Slight hydrocarbon.
- pH : Not applicable.
- Initial Boiling Point and Boiling Range : > 280 °C / 536 °F estimated value(s)
- Flash point : > 176.67 °C / 350.01 °F (COC)
- Upper / lower Flammability or Explosion limits : Typical 1 - 10 %(V) (based on mineral oil)
- Auto-ignition temperature : > 320 °C / 608 °F
- Vapour pressure : < 0.5 Pa at 20 °C / 68 °F (estimated value(s))
- Specific gravity : Data not available
- Water solubility : Negligible.
- n-octanol/water partition coefficient (log Pow) : > 6 (based on information on similar products)
- Kinematic viscosity : > 40 mm<sup>2</sup>/s
- Vapour density (air=1) : > 1 (estimated value(s))
- Evaporation rate (nBuAc=1) : Data not available

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**10. STABILITY AND REACTIVITY**

<b>Stability</b>	: Stable.
<b>Conditions to Avoid</b>	: Extremes of temperature and direct sunlight.
<b>Materials to Avoid</b>	: Strong oxidising agents.
<b>Hazardous Decomposition Products</b>	: Hazardous decomposition products are not expected to form during normal storage.

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**11. TOXICOLOGICAL INFORMATION**

<b>Basis for Assessment</b>	: Information given is based on data on the components and the toxicology of similar products.
<b>Acute Oral Toxicity</b>	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
<b>Acute Dermal Toxicity</b>	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
<b>Acute Inhalation Toxicity</b>	: Not considered to be an inhalation hazard under normal conditions of use.
<b>Skin Irritation</b>	: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
<b>Eye Irritation</b>	: Expected to be slightly irritating.
<b>Respiratory Irritation</b>	: Inhalation of vapours or mists may cause irritation.
<b>Sensitisation</b>	: Not expected to be a skin sensitiser.
<b>Repeated Dose Toxicity</b>	: Not expected to be a hazard.
<b>Mutagenicity</b>	: Not considered a mutagenic hazard.
<b>Carcinogenicity</b>	: Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
<b>Reproductive and Developmental Toxicity</b>	: Not expected to be a hazard.
<b>Additional Information</b>	: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

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**12. ECOLOGICAL INFORMATION**

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

<b>Acute Toxicity</b>	: Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.
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- Mobility** : Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
- Persistence/degradability** : Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
- Bioaccumulation** : Contains components with the potential to bioaccumulate.
- Other Adverse Effects** : Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

**13. DISPOSAL CONSIDERATIONS**

- Material Disposal** : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
- Container Disposal** : Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local Legislation** : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

**14. TRANSPORT INFORMATION**

**US Department of Transportation Classification (49CFR)**

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

**IMDG**

This material is not classified as dangerous under IMDG regulations.

**IATA (Country variations may apply)**

This material is not classified as dangerous under IATA regulations.

**15. REGULATORY INFORMATION**

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

**Federal Regulatory Status**

**Notification Status**

- EINECS All components listed.
- TSCA All components listed.
- DSL All components listed.

## Material Safety Data Sheet

### SARA Hazard Categories (311/312)

No SARA 311/312 Hazards.

### State Regulatory Status

#### California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This product contains a chemical known to the State of California to cause cancer.  
Known to the State of California to cause birth defects or other reproductive harm.

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## 16. OTHER INFORMATION

**NFPA Rating (Health, Fire, Reactivity)** : 0, 1, 0

**MSDS Version Number** : 2.0

**MSDS Effective Date** : 07/08/2008

**MSDS Revisions** : A vertical bar (|) in the left margin indicates an amendment from the previous version.

**MSDS Regulation** : The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**MSDS Distribution** : The information in this document should be made available to all who may handle the product.

**Disclaimer** : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.



# SAFETY DATA SHEET

Revision Date 07-Apr-2015

Version 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** VERSACHEM DIELECTRIC CONNECTOR GREASE 4 GR.

### Other means of identification

**Product Code** 15311V

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** 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 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** Grease

**Odor** Mild

### Hazards not otherwise classified (HNOC)

Not applicable

### Other Information

Not applicable

Unknown acute toxicity 6.52% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
POLYDIMETHYLSILOXANE	63148-62-9	60 - 100	*
MODIFIED SILICON DIOXIDE	68611-44-9	3 - 7	*
OXIRANE, METHYL-, POLYMER	52624-57-4	1 - 5	*

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

### 4. FIRST AID MEASURES

#### Description of first aid measures

<b>General advice</b>	Get medical advice/attention if you feel unwell.
<b>Eye contact</b>	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.
<b>Skin contact</b>	IF ON SKIN: Wash skin with soap and water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.
<b>Inhalation</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
<b>Ingestion</b>	IF SWALLOWED. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
<b>Self-protection of the first aider</b>	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 (CO<sub>2</sub>), 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, Acids, Reducing agent

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**  
**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** None under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment.

**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	Grease
Appearance	White
Odor	Mild
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	> 93 °C / > 199 °F	Tag Closed Cup
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	1.0	
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 (%)	0
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, Acids, Reducing agent

**Hazardous Decomposition Products**

Carbon oxides  
Formaldehyde

**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** Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
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** 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).  
*IARC (International Agency for Research on Cancer)*  
*Group 2A - Probably Carcinogenic to Humans*  
*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)** 18219 mg/kg  
**ATEmix (dermal)** 2143 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

99.92% of the mixture consists of components(s) of unknown hazards to the aquatic environment

**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**

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

**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**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Not Listed.
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	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**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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**

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

<b>NFPA</b>	<b>Health hazards</b> 1	<b>Flammability</b> 1	<b>Instability</b> 0	-
<b>HMIS</b>	<b>Health hazards</b> 1	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> B

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

**Revision Date** 07-Apr-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

## 1. Identification

<b>Product identifier</b>	<b>Contact Cleaner 2000® Precision Cleaner</b>
<b>Other means of identification</b>	
<b>Product code</b>	03150
<b>Recommended use</b>	Precision electronics cleaner
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufactured or sold by:</b>	
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	215-674-4300
<b>Technical Assistance</b>	800-521-3168
<b>Customer Service</b>	800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	800-424-9300 (US) 703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable aerosols Gases under pressure	Category 2 Compressed gas
<b>Health hazards</b>	Acute toxicity, oral Serious eye damage/eye irritation Specific target organ toxicity, single exposure Aspiration hazard	Category 4 Category 2A Category 3 narcotic effects Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 3
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		

**Signal word**

Danger

**Hazard statement**

Flammable aerosol. Contains gas under pressure; may explode if heated. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes serious eye 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. Pressurized container: Do not pierce or burn, even after use. 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 gas, mist or vapor. Do not eat, drink or smoke when using this product. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling. Avoid release to the environment.

**Response**

If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor 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 eye irritation persists: Get medical attention.

<b>Storage</b>	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.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
COzol® 401		Proprietary	80 - 90
Carbon dioxide		124-38-9	5 - 10
Decafluoropentane	HFC 43-10mee	138495-42-8	5 - 10
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

<b>Inhalation</b>	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. Do NOT give epinephrine (adrenaline). Call a POISON CENTER or doctor/physician.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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. Immediately give 2 glasses of water. Do NOT give stimulants. Never give anything by mouth to a victim who is unconscious or is having convulsions.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause drowsiness or dizziness.
<b>Indication of immediate medical attention and special treatment needed</b>	Because of possible disturbances of cardiac rhythm, catecholamine drugs such as adrenaline should be used with special caution and only in situations of emergency life support.  Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Powder. Water. Water spray. Foam. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Contents under pressure. Pressurized container may explode when exposed to heat or flame. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Fire-fighting equipment/instructions</b>	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. In the event of fire, cool tanks with water spray.
<b>General fire hazards</b>	Flammable aerosol.

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## 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. Avoid inhalation of vapors or mists. Avoid breathing gas. 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. This product is miscible in water. Stop the flow of material, if this is without risk. Collect spillage. Dike far ahead of spill for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. 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. Use appropriate containment to avoid environmental contamination.

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## 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. Do not taste or swallow. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. 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.

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. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

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## 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/m <sup>3</sup>
Methanol (CAS 67-56-1)	PEL	5000 ppm 260 mg/m <sup>3</sup> 200 ppm
Trans-1,2-dichloroethylene (CAS 156-60-5)	PEL	790 mg/m <sup>3</sup> 200 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
Methanol (CAS 67-56-1)	TWA STEL	5000 ppm 250 ppm
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m <sup>3</sup>

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Methanol (CAS 67-56-1)	TWA	30000 ppm
		9000 mg/m3
	STEL	5000 ppm
		325 mg/m3
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	250 ppm
		260 mg/m3
	TWA	200 ppm
		790 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. Provide eyewash station.

**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). 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 eat, drink or 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** Clear. Colorless.

**Odor** Slight ethereal.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** -112 °F (-80 °C) estimated

<b>Initial boiling point and boiling range</b>	104.2 °F (40.1 °C) estimated
<b>Flash point</b>	None (Tag Closed Cup)
<b>Evaporation rate</b>	Fast.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	2 % estimated
<b>Flammability limit - upper (%)</b>	19.9 % estimated
<b>Vapor pressure</b>	3294.4 hPa estimated
<b>Vapor density</b>	> 1 (air = 1)
<b>Relative density</b>	1.27 estimated
<b>Solubility (water)</b>	Slight.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	860 °F (460 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (kinematic)</b>	Not available.
<b>Percent volatile</b>	95 % estimated

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## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	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 fluoride, hydrogen chloride and possibly phosgene.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong bases. Strong acids. Caustics. Alkali metals. Alkaline earth metals. Powdered metal.
<b>Hazardous decomposition products</b>	Carbonyl halides. Hydrogen fluoride. Hydrogen chloride. Phosgene. Formaldehyde. Carbon oxides.

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## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Harmful if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Inhalation</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. With high exposure levels, effects can include central nervous system (CNS) depression, unconsciousness and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in a confined space.
<b>Skin contact</b>	Prolonged skin contact may cause temporary irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. 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.

<b>Product</b>	<b>Species</b>	<b>Test Results</b>
Contact Cleaner 2000® Precision Cleaner		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	7574.293 mg/kg estimated

Product	Species	Test Results
<i>Inhalation</i> LC50	Rat	42708.625 ppm, 4 hours estimated 146.7171 mg/l, 4 hours estimated
<i>Oral</i> LD50	Rat	1645.8026 mg/kg estimated

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity</b>	Not expected to be hazardous by OSHA criteria.
<b>Specific target organ toxicity - single exposure</b>	Narcotic effects.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product	Species	Test Results	
Contact Cleaner 2000® Precision Cleaner			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia	83.8284 mg/l, 48 hours estimated
Fish	LC50	Fish	93.6062 mg/l, 96 hours estimated
<b>Components</b>			
Decafluoropentane (CAS 138495-42-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	11.7 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio)	13 mg/l, 96 hours
Methanol (CAS 67-56-1)			
<b>Aquatic</b>			
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** No data available.

**Partition coefficient n-octanol / water (log Kow)**

Decafluoropentane	2.7, Pow at 20 °C
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.

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### 13. Disposal considerations

<b>Disposal of waste from residues / unused products</b>	The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Empty container can be recycled. 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.
<b>Hazardous waste code</b>	Not regulated.
<b>Contaminated packaging</b>	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.

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### 14. Transport information

#### DOT

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1
<b>Packing group</b>	Not applicable.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	N82
<b>Packaging exceptions</b>	306
<b>Packaging non bulk</b>	None
<b>Packaging bulk</b>	None

#### IATA

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	10L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

#### IMDG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, LIMITED QUANTITY
<b>Transport hazard class(es)</b>	
<b>Class</b>	2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	Not available.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

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### 15. Regulatory information

<b>US federal regulations</b>	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.
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#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Decafluoropentane (CAS 138495-42-8) 1.0 % One-Time Export Notification only.

#### 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**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Trans-1,2-dichloroethylene (CAS 156-60-5)

**CERCLA Hazardous Substances: Reportable quantity**

Trans-1,2-dichloroethylene (CAS 156-60-5) 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**

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 - Yes  
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**

Carbon dioxide (CAS 124-38-9)  
Methanol (CAS 67-56-1)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. Massachusetts RTK - Substance List**

Carbon dioxide (CAS 124-38-9)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

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

Methanol (CAS 67-56-1)  
Carbon dioxide (CAS 124-38-9)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. Rhode Island RTK**

Methanol (CAS 67-56-1)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

**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

**Volatile organic compounds (VOC) regulations**

**EPA**

**VOC content (40 CFR 51.100(s))** 57.5 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

**State**

**Consumer products** This product is regulated as an Electronic Cleaner. This product is not compliant to be sold for use in California. This product is compliant in all other states.

**VOC content (CA)** 95 %

VOC content (OTC) 57.5 %

**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	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	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).

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**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	02-04-2014
<b>Revision date</b>	08-26-2014
<b>Prepared by</b>	Allison Cho
<b>Version #</b>	02
<b>Further information</b>	CRC # 657B
<b>HMIS® ratings</b>	Health: 2 Flammability: 2 Physical hazard: 1 Personal protection: B
<b>NFPA ratings</b>	Health: 2 Flammability: 2 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.



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>DIESEL FUELS</b>
<b>Other means of identification</b>	
<b>SDS number</b>	102-GHS
<b>Synonyms</b>	Diesel Fuels All Grades, Diesel Fuel No.2, Fuel Oil No.2, High Sulfur Diesel Fuel, Low Sulfur Diesel Fuel, Ultra Low Sulfur Diesel Fuel, CARB (California Air Resource Board) Diesel Fuel, Off-Road Diesel Fuel, Dyed Diesel Fuel, X Grade Diesel Fuel, X-1 Diesel Fuel, R5 ULSD, B5 ULS D See section 16 for complete information.
<b>Recommended use</b>	Motor Fuel Refinery feedstock.
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer/Supplier</b>	Valero Marketing & Supply Company and Affiliates One Valero Way San Antonio, TX 78269-6000
<b>General Assistance</b>	210-345-4593
<b>E-Mail</b>	CorpHSE@valero.com
<b>Contact Person</b>	Industrial Hygienist
<b>Emergency Telephone</b>	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Flammable liquid and vapor. Harmful if inhaled. Causes skin irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs (blood, thymus, liver) through prolonged or repeated exposure. May be fatal if swallowed and enters airways.
<b>Precautionary statement</b>	
<b>Prevention</b>	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 discharges. Do not breathe the mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area.

<b>Response</b>	If skin irritation occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. If swallowed: Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
<b>Storage</b>	Store locked up. Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Fuels, diesel, no. 2	68476-34-6	85 - 100
Biodiesel - Fatty acid methyl esters	67762-38-3	0 - 10
Fuels, diesel, C9-18-alkane branched and linear	1159170-26-9	0 - 5
n-Nonane	111-84-2	1 - 3
Octane (All isomers)	111-65-9	1 - 2
Hexane (Other isomers)	96-14-0	0 - 1
Naphthalene	91-20-3	0 - 1
n-Heptane	142-82-5	0 - 1
n-Hexane	110-54-3	0 - 1

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin contact</b>	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. If high pressure injection under the skin occurs, always seek medical attention.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash. The toxicological properties of this product have not been thoroughly investigated. Use appropriate precautions. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. The toxicological properties of this material have not been fully investigated.
<b>General information</b>	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

**Suitable extinguishing media** Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Thermal decomposition or combustion may liberate toxic gases or fumes.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire-fighting equipment/instructions</b>	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. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** 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 SDS for Personal Protective Equipment.

**Methods and materials for containment and cleaning up** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Local authorities should be advised if significant spillages cannot be contained. 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.

Use non-sparking tools and explosion-proof equipment.

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.

Clean up in accordance with all applicable regulations.

**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.

## 7. Handling and storage

**Precautions for safe 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. Avoid breathing 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 combustible, 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.

**Conditions for safe storage, including any incompatibilities**

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

Components	Type	Value
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3 10 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m3 500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m3 500 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Fuels, diesel, no. 2 (CAS 68476-34-6)	TWA	100 mg/m3	Inhalable fraction and vapor.
Hexane (Other isomers) (CAS 96-14-0)	STEL	1000 ppm	
Naphthalene (CAS 91-20-3)	TWA	500 ppm	
	STEL	15 ppm	
n-Heptane (CAS 142-82-5)	TWA	10 ppm	
	STEL	500 ppm	
n-Hexane (CAS 110-54-3)	TWA	400 ppm	
	TWA	50 ppm	
n-Nonane (CAS 111-84-2)	TWA	200 ppm	
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm	

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Hexane (Other isomers) (CAS 96-14-0)	Ceiling	1800 mg/m3
	TWA	510 ppm 350 mg/m3 100 ppm
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3 15 ppm
	TWA	50 mg/m3 10 ppm
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3 440 ppm
	TWA	350 mg/m3 85 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm
	TWA	1050 mg/m3 200 ppm
Octane (All isomers) (CAS 111-65-9)	Ceiling	1800 mg/m3
	TWA	385 ppm 350 mg/m3 75 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-Hexanedio n, without hydrolysis	Urine	*
	0.4 mg/l	2,5-Hexanedi - on, without hydrolysis		*

\* - 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

Fuels, diesel, no. 2 (CAS 68476-34-6)

Can be absorbed through the skin.

Naphthalene (CAS 91-20-3)

Can be absorbed through the skin.

n-Hexane (CAS 110-54-3)

Can be absorbed through the skin.

### Appropriate 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.

## Individual protection measures, such as personal protective equipment

### Eye/face protection

Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

### Skin protection

#### Hand protection

Wear chemical-resistant, impervious gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

#### Other

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.

### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and 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.

### Melting point/freezing point

-60.07 °F (-51.15 °C) Estimated

### Initial boiling point and boiling range

325 - 700 °F (162.78 - 371.11 °C)

### Flash point

> 100.0 °F (> 37.8 °C) Closed Cup

### Evaporation rate

0.02

### Flammability (solid, gas)

Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** 0.4 %

**Flammability limit - upper (%)** 8 %

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** < 1 mm Hg (20°C)

**Vapor density** 3 (Air = 1)

**Relative density** 0.82 - 0.87

**Relative density temperature** 60 °F (15.56 °C)

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** 494.96 °F (257.2 °C)

**Decomposition temperature** Not available.

**Viscosity** 2 - 4.5 mm<sup>2</sup>/s

**10. Stability and reactivity**

**Reactivity** Stable at normal conditions.

**Chemical stability** Stable under normal temperature conditions and recommended use.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**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** No hazardous decomposition products are known.

**11. Toxicological information****Information on likely routes of exposure**

**Ingestion** May be fatal if swallowed and enters airways.

**Inhalation** Harmful if inhaled. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

**Skin contact** Causes skin irritation.

**Eye contact** May cause eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash. The toxicological properties of this product have not been thoroughly investigated. Use appropriate precautions.

**Information on toxicological effects**

**Acute toxicity** Harmful if inhaled. Harmful: may cause lung damage if swallowed. The toxicological properties of this material have not been fully investigated.

Components	Species	Test Results
Fuels, diesel, no. 2 (CAS 68476-34-6)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	4.1 mg/l, 4 hours

Components	Species	Test Results
Naphthalene (CAS 91-20-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2 g/kg
<i>Oral</i>		
LD50	Rat	490 mg/kg
n-Heptane (CAS 142-82-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	103 mg/l, 4 Hours
n-Hexane (CAS 110-54-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	28710 mg/kg
n-Nonane (CAS 111-84-2)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	3200 mg/l, 4 Hours
Octane (All isomers) (CAS 111-65-9)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	118 mg/l, 4 Hours
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.	
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met.	
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.	
<b>Carcinogenicity</b>	Suspected of causing cancer. International Agency for Research on Cancer (IARC): Whole diesel engine exhaust – IARC Group 1. Exposure may cause lung cancer and also noted a positive association with an increased risk of bladder cancer. Diesel exhaust has been reported to be an occupational hazard due to NIOSH-reported potential carcinogenic properties.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Fuels, diesel, no. 2 (CAS 68476-34-6)	3 Not classifiable as to carcinogenicity to humans.	
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.	
<b>NTP Report on Carcinogens</b>		
Naphthalene (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.	
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child. Naphthalene 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.	
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to the following organs through prolonged or repeated exposure: Blood. Liver. Thymus.	
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways.	
<b>Chronic effects</b>	Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Repeated exposure to naphthalene may cause cataracts, allergic skin rashes, destruction of red blood cells, and anemia, jaundice, kidney and liver damage. Danger of serious damage to health by prolonged exposure. Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.	

**Further information**

Symptoms may be delayed. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Toxicological properties of this material have not been fully investigated.

**12. Ecological information**

**Ecotoxicity** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components	Species	Test Results
Fuels, diesel, no. 2 (CAS 68476-34-6)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EL50	Daphnia magna 68 mg/l, 48 hours
Fish	LL50	Oncorhynchus mykiss 65 mg/l, 96 hours
Naphthalene (CAS 91-20-3)		
<b>Aquatic</b>		
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
n-Heptane (CAS 142-82-5)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish (Gambusia affinis) 4924 mg/l, 96 hours
n-Hexane (CAS 110-54-3)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow (Pimephales promelas) 2.101 - 2.981 mg/l, 96 hours

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

Hexane (Other isomers) (CAS 96-14-0)	3.6
Octane (All isomers) (CAS 111-65-9)	5.18
n-Heptane (CAS 142-82-5)	4.66
n-Hexane (CAS 110-54-3)	3.9
n-Nonane (CAS 111-84-2)	5.46

**Mobility in soil** Not available.

**Other adverse effects** Not available.

**13. Disposal considerations**

**Disposal instructions** Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. 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.

**Hazardous waste code** D001: Waste Flammable material with a flash point <140 °F

**US RCRA Hazardous Waste U List: Reference**

Naphthalene (CAS 91-20-3) U165

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

**14. Transport information****DOT**

<b>UN number</b>	UN1202
<b>UN proper shipping name</b>	Diesel fuel
<b>Transport hazard class(es)</b>	
<b>Class</b>	Combustible Liquid
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III

**Environmental hazards**

<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	144, B1, IB3, T2, TP1
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	242

**IATA**

<b>UN number</b>	UN1202
<b>UN proper shipping name</b>	Diesel fuel
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

<b>UN number</b>	UN1202
<b>UN proper shipping name</b>	DIESEL FUEL
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-E, S-E
<b>Special precautions for user</b>	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 applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

**15. Regulatory information****US federal regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

n-Nonane (CAS 111-84-2) 1.0 % One-Time Export Notification only.

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

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Hexane (Other isomers) (CAS 96-14-0)	LISTED
Naphthalene (CAS 91-20-3)	LISTED
n-Heptane (CAS 142-82-5)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
n-Nonane (CAS 111-84-2)	LISTED
Octane (All isomers) (CAS 111-65-9)	LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<b>Hazard categories</b>	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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**SARA 302 Extremely hazardous substance**

Not listed.

<b>SARA 311/312 Hazardous chemical</b>	Yes
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**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Naphthalene	91-20-3	0 - 1

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Naphthalene (CAS 91-20-3)

n-Hexane (CAS 110-54-3)

**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** WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.**US. Massachusetts RTK - Substance List**

Hexane (Other isomers) (CAS 96-14-0)

Naphthalene (CAS 91-20-3)

n-Heptane (CAS 142-82-5)

n-Hexane (CAS 110-54-3)

n-Nonane (CAS 111-84-2)

Octane (All isomers) (CAS 111-65-9)

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

Fuels, diesel, no. 2 (CAS 68476-34-6)

Naphthalene (CAS 91-20-3)

n-Heptane (CAS 142-82-5)

n-Hexane (CAS 110-54-3)

n-Nonane (CAS 111-84-2)

Octane (All isomers) (CAS 111-65-9)

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

Fuels, diesel, no. 2 (CAS 68476-34-6)

Hexane (Other isomers) (CAS 96-14-0)

Naphthalene (CAS 91-20-3)

n-Heptane (CAS 142-82-5)

n-Hexane (CAS 110-54-3)

n-Nonane (CAS 111-84-2)

Octane (All isomers) (CAS 111-65-9)

**US. Rhode Island RTK**

Naphthalene (CAS 91-20-3)

n-Hexane (CAS 110-54-3)

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

Benzene (CAS 71-43-2)

Toluene (CAS 108-88-3)

**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)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
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)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

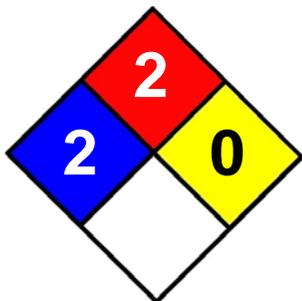
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates 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	13-May-2013
Revision date	23-May-2014
Version #	04
Further information	HMIS® is a registered trade and service mark of the NPCA.
NFPA Ratings	



### Disclaimer

This material Safety Data Sheet (SDS) 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 SDS 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.



# ® 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:** STP® Gas Treatment

**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:** 06/16/2015

**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 not contain the OSHA label elements shown below on this SDS.

**GHS Classification:**

Physical:	Health:
Flammable Liquid Category 3	Skin Irritation Category 2 Carcinogen Category 2B Specific Target Organ Toxicity Single Exposure Category 3 (CNS effects) Aspiration Hazard Category 1

**GHS Label Elements:**



Danger!

**Statements of Hazard**

Flammable liquid and vapor  
May be fatal if swallowed and enters airways  
Causes skin irritation  
May cause drowsiness or dizziness  
Suspected of causing cancer

**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 hot surfaces. -  
No smoking.  
Keep container tightly closed.



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#### Prevention – Cont.

Ground or Bond container and receiving equipment.  
Use explosion-proof electrical, ventilating, lighting, or equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing mist, vapors or spray.  
Wash exposed skin thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, and protective clothing.

#### Storage

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

**Hazards not otherwise specified:** None

**Percentage of unknown toxicity:** 1-5%

#### Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
If skin irritation occurs: Get medical attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor if you feel unwell.  
IF exposed or concerned: Get medical advice.  
In case of fire: Use water fog, foam, carbon dioxide or dry chemical to extinguish.

#### Disposal

Dispose of contents and container in accordance with local and national regulations.

### 3. Composition/Information On Ingredients

Component	CAS No.	Amount
Hydrosulfurized Kerosene	64742-81-0	80-100%
Naphthalene	91-20-3	1-10%
Solvent naphtha (petroleum), light aromatic	64742-95-6	1-5%
Polyolefin alkyl phenol alkyl amine	Proprietary	1-5%
1,2,4-Trimethylbenzene	95-63-6	<2%
Ethyl benzene	100-41-4	<1%
Cumene	98-82-8	<1%

**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. If breathing becomes difficult, administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention if symptoms appear and persist.

**Skin Contact:** Remove contaminated clothing and launder before reuse. Wash exposed skin with soap and water. If skin irritation or redness develops, get medical attention.

**Eye Contact:** Flush eyes with large amounts of water. If irritation or other symptoms persist, get medical attention.

**Ingestion:** 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:** Skin irritant. May cause mild eye irritation. Inhalation of mists or vapors may central nervous system effects such as dizziness, drowsiness, headache and nausea. Aspiration hazard – may enter the lungs during swallowing or vomiting and cause serious lung damage, which may be fatal. Ingestion may also cause gastrointestinal effects such as nausea, vomiting and diarrhea and central nervous system effects. Contains materials that may cause cancer based on animal data. This risk of cancer depends on the level and duration of exposure.

**Indication of Immediate Medical Attention/Special Treatment:** Immediate medical treatment is required for ingestions which may result in an aspiration hazard. Material may enter the lungs during swallowing or vomiting and cause serious lung damage, which may be fatal.

## 5. Firefighting Measures

**Suitable (and Unsuitable) Extinguishing Media:** Use water fog, foam, carbon dioxide or dry chemical. Cool fire exposed containers with water.

**Specific Hazards Arising from the Chemical:** Flammable liquid and vapor. Vapors may accumulate in confined areas and present a fire or explosion hazard. Vapors may be heavier than air and travel along surfaces to remote ignition sources and flash back. Closed containers may rupture if exposed to extreme heat. Burning may produce carbon monoxide, carbon dioxide and oxides of nitrogen.

**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:** Caution – slip hazard. Eliminate all ignition sources and ventilate the area. Wear appropriate protective equipment.

**Methods and Materials for Containment and Clean-Up:** Stop spill at the source if it is safe to do so. Absorb with an inert material. Collect into a suitable container for disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard.

**Environmental Precautions:** Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations. Notify the National Response Center if a spill of any amount enters navigable waters, the contiguous zone, or adjoining shorelines.

## 7. Handling and Storage

### Precautions for Safe Handling:

Avoid contact with eyes, skin and clothing. Avoid breathing vapors and mists. Wash exposed skin thoroughly with soap and water after use. Keep containers closed when not in use. Do not permit smoking in use or storage areas. Keep out of the reach of children.

Empty containers retain product residue and may be hazardous. Do not reuse empty containers.



**Conditions for Safe Storage, Including any Incompatibilities:**

Store in a cool, dry, well ventilated area. Store away from oxidizing agents and other incompatible materials.

**8. Exposure Controls / Personal Protection**

**Exposure Guidelines:**

CHEMICAL	EXPOSURE LIMIT
Hydrosulfurized Kerosene (as total hydrocarbon vapor)	200 mg/m <sup>3</sup> TWA ACGIH TLV (Skin)
Naphthalene	10 ppm TWA OSHA PEL 10 ppm TWA ACGIH TLV (Skin)
Solvent naphtha (petroleum), light aromatic	None Established
Polyolefin alkyl phenol alkyl amine	None Established
1,2,4-Trimethylbenzene	25 ppm TWA ACGIH
Ethylbenzene	100 ppm TWA OSHA PEL 20 ppm TWA ACGIH TLV
Cumene	50 ppm TWA OSHA PEL (Skin) 50 ppm TWA ACGIH TLV

**Engineering Controls:** General ventilation should be adequate for all normal use. For operations where the exposure limits may be exceeded, forced ventilation such as local exhaust may be needed to maintain exposures below applicable limits.

**Respiratory Protection:** None under normal use conditions. For operations where the exposure limits are exceeded, a NIOSH approved respirator with an organic vapor cartridge 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.

**Gloves:** Impervious gloves such as neoprene or nitrile are recommended if needed to avoid prolonged or repeated skin contact.

**Eye Protection:** Safety glasses or goggles are recommended if eye contact is possible.

**Other Protective Equipment/Clothing:** Appropriate protective clothing as needed to prevent prolonged or repeated skin contact.

**9. Physical and Chemical Properties**

**Appearance And Odor:** Clear, colorless to straw colored liquid with a hydrocarbon odor.

<b>Physical State:</b> Liquid	<b>Odor Threshold:</b> Not determined
<b>pH:</b> Not applicable	<b>Vapor Pressure:</b> 20 mmHg @ 70°C
<b>Initial Boiling Point/Range:</b> Not determined	<b>Vapor Density:</b> >1
<b>Melting/Freezing Point:</b> Not determined	<b>Percent Volatile:</b> 100%
<b>Solubility In Water:</b> Insoluble	<b>Evaporation Rate:</b> Not determined
<b>Viscosity:</b> Not determined	<b>VOC Content:</b> Not determined
<b>Specific Gravity:</b> 0.77-0.92	<b>Autoignition Temp:</b> Not determined
<b>Coefficient Of Water/Oil Distribution:</b> Not determined	<b>Flame extension:</b> Not applicable
<b>Flash Point:</b> 111°F (44°C) CC minimum	<b>Flammability (solid, gas):</b> Not applicable



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**Flammability Limits:** LEL: 0.6 (kerosene)  
UEL: 4.7 (kerosene)

**Decomposition Temperature:** Not available

## 10. Stability and Reactivity

**Reactivity:** Not normally reactive

**Chemical Stability:** Stable under normal storage and handling conditions.

**Possibility of Hazardous Reactions:** None known

**Conditions To Avoid:** Keep away from excessive heat and open flames.

**Incompatible Materials:** Strong oxidizing agents and reducing agents.

**Hazardous Decomposition Products:** Burning may produce carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Health Hazards:

**Inhalation:** Inhalation of mists or vapors may cause upper respiratory tract irritation and central nervous system effects such as dizziness, drowsiness, headache and nausea.

**Skin Contact:** May cause skin irritation. Prolonged or repeated contact may cause defatting and drying of the skin and dermatitis.

**Eye Contact:** Direct contact may cause eye irritation with redness, tearing and pain.

**Ingestion:** Aspiration hazard – may enter the lungs during swallowing or vomiting and cause serious lung damage, which may be fatal. Ingestion may also cause gastrointestinal effects such as nausea, vomiting and diarrhea and central nervous system effects with symptoms of drowsiness, headache, dizziness and unconsciousness.

**Chronic Effects:** Prolonged or repeated overexposure may cause adverse effects on the blood, kidneys, liver, and heart.

**Carcinogen:** Naphthalene and Cumene are classified by IARC as a possible human carcinogen (group 2B) and by NTP as a reasonably anticipated human carcinogen. Ethyl benzene is classified by IARC as a possible human carcinogen (group 2B).

### Numerical Measure of Toxicity:

Hydro-sulfurized Kerosene: LD50 Oral Rat: >5,000 mg/kg  
LD50 Skin Rabbit: >2,000 mg/kg  
LC50 Inhalation Rat: >5.28 mg/L/4 hr.

Solvent naphtha (petroleum), light aromatic:  
LD50 Oral Rat: 3,500 mg/kg  
LD50 Skin Rabbit: >3,160 mg/kg

Naphthalene: LD50 Oral Rat: 2,200-2,600 mg/kg  
LD50 Skin Rabbit >2,000 mg/kg  
LC50 Inhalation Rat: >0.4 mg/L/4hr. (Highest amount possible) No mortalities.

Polyolefin alkyl phenol alkyl amine:  
No data available



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1,2,4-Trimethylbenzene:	LD50 Oral Rat: 3,280 mg/kg LD50 Skin Rabbit >3,160 mg/kg LC50 Inhalation Rat: 18 mg/L/4 hr.
Ethylbenzene:	LD50 Oral Rat: 3,500 mg/kg LD50 Skin Rabbit 17,800 mg/kg
Cumene:	LD50 Oral Rat: 2,910 mg/kg LD50 Skin Rabbit 10,578 mg/kg LC50 Inhalation Rat: 8,000 ppm /4 hr.

## 12. Ecological Information

### Ecotoxicity:

Hydrosulfurized Kerosene:	EL50: Daphnia Magna: 1.4 mg/L/48 hr.
Solvent naphtha (petroleum), light aromatic:	LC50: Oncorhynchus mykiss 9.22 mg/L/96 hr. EC50 Daphnia Magna: 6.14 mg/L/48 hr.
Naphthalene:	LC50 Oncorhynchus gorbusha (pink salmon) 1.4 mg/L/96
1,2,4-Trimethylbenzene:	LC50: Oncorhynchus mykiss 9.22 mg/L/96 hr. EC50 Daphnia Magna: 6.14 mg/L/48 hr.
Ethylbenzene:	LC50 Pimephales promelas (fathead minnow) 14.4 mg/l /96 hr.
Cumene:	LC50 Pimephales promelas (fathead minnow) 6.32 mg/l /96 hr. EC50 Daphnia Magna: 3.44 mg/L/48 hr.

### Persistence and Degradability:

Hydrosulfurized Kerosene:	58.6 % in 28 days
Naphthalene:	Reached 2% of its theoretical BOD in 4 weeks
Ethylbenzene:	After a period of inocula adaptation, ethylbenzene is biodegraded fairly rapidly by sewage or activated sludge inoculua.
Cumene:	Not ready biodegradeable

### Bio accumulative Potential:

Naphthalene:	BCF 23 to 146, these BCF values suggest the potential for bio concentration in aquatic organisms is low to high.
Ethylbenzene:	BCF of 15
Cumene:	Not likely to bioaccumulate in aquatic organisms.

### Mobility in Soil:

Naphthalene:	Is expected to have moderate to low mobility in soil.
Cumene:	Is expected to have low mobility in soil.

**Other Adverse Effects:** No data available

## 13. Disposal Considerations

Dispose of in accordance with all local, state/provincial and federal regulations.



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## 14. Transport Information

**DOT Hazardous Materials Description:** Not Regulated in non-bulk packagings (119 gallons and smaller).

**Canadian TDG Hazardous Materials Description:** Not Regulated in small means of containment

**IMDG Dangerous Goods Description:** UN1268, Petroleum Distillates, n.o.s., 3, III, limited quantity, Marine pollutant

## 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 an RQ of 1000 lbs based on the RQ for naphthalene of 100 lbs present at 10% maximum. 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):** Acute Health, Chronic Health, Fire Hazard

**SARA 313:** This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):  
Naphthalene 1-10%  
Ethyl Benzene <1%  
1,2,4-Trimethylbenzene <2%  
Cumene < 1%

### Canada:

**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.

### Other International:

**China:** All of the ingredients are listed on the Chinese chemical inventory.

**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).

**Japan:** All of the components are listed on Japanese MITI inventory.

**Korea:** All of the components of this product are listed on the Korean Existing Chemical List (KECL).

**Philippines:** All of the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).



® Safety Data Sheet

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**16. Other Information**

NFPA Rating (NFPA 704):      Health: 2      Fire: 2      Instability: 0  
HMIS Rating:                      Health: 2\*      Fire: 2      Physical hazard: 0

DATE OF CURRENT REVISION: 06/16/2015

REVISION SUMMARY: Update to OSHA HazCom 2012 GHS format. Changes to all sections.

DATE OF PREVIOUS REVISION: 02/17/2015

DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>UNLEADED GASOLINE</b>
<b>Other means of identification</b>	
<b>SDS number</b>	002-GHS
<b>Synonyms</b>	Regular/Premium/Midgrade - Unleaded Gasoline, RFG - Reformulated Unleaded Gasoline, Conventional Unleaded Gasoline, Oxygenated Unleaded Gasoline, Non-Oxygenated Unleaded Gasoline, CARB (California Air Resource Board) Unleaded Gasoline, RBOB - Reformulated Blendstock for Oxygenate Blending, CBOB - Conventional Blendstock for Oxygenate Blending, Petrol, Motor Fuel. See section 16 for complete information.
<b>Recommended use</b>	Motor Fuel Motor fuels.
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer/Supplier</b>	Valero Marketing & Supply Company and Affiliates One Valero Way San Antonio, TX 78269-6000 210-345-4593 CorpHSE@valero.com
<b>General Assistance</b>	210-345-4593
<b>E-Mail</b>	CorpHSE@valero.com
<b>Contact Person</b>	Industrial Hygienist
<b>Emergency Telephone</b>	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 1
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



**Signal word**

Danger

**Hazard statement**

Extremely flammable liquid and vapor. Causes skin irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (blood, liver, kidney) through prolonged or repeated exposure. May be fatal if swallowed and enters airways. 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. 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 gas/mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

### Response

If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction. Collect spillage.

### Storage

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

### Disposal

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

### Hazard(s) not otherwise classified (HNOC)

None known.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Gasoline	86290-81-5	80-100
Toluene	108-88-3	0-30
Hexane (Other Isomers)	96-14-0	5-25
Xylene (o, m, p isomers)	1330-20-7	0-25
Octane (All isomers)	111-65-9	0-18.5
Ethanol	64-17-5	0-10
1,2,4, Trimethylbenzene	95-63-6	0-6
n-Heptane	142-82-5	1-5
Pentane	109-66-0	1-5
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

## 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

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. If high pressure injection under the skin occurs, always seek medical attention.

### 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. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

### Most important symptoms/effects, acute and delayed

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.

UNLEADED GASOLINE

913457 Version #: 03 Revision date: 23-May-2014 Print date: 23-May-2014

Prepared by 3E Company

<b>Indication of immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	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.
<b>5. Fire-fighting measures</b>	
<b>Suitable extinguishing media</b>	Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire-fighting equipment/instructions</b>	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.
<b>Specific methods</b>	Use water spray to cool unopened containers.
<b>General fire hazards</b>	Extremely flammable liquid and vapor. Containers may explode when heated.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	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 SDS for Personal Protective Equipment.
<b>Methods and materials for containment and cleaning up</b>	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.  Use non-sparking tools and explosion-proof equipment.  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.
<b>Environmental precautions</b>	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. 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. Extremely 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.

## 7. Handling and storage

### Precautions for safe 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 extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. 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.

### Conditions for safe storage, including any incompatibilities

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 feedings. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### 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
Cumene (CAS 98-82-8)	PEL	245 mg/m <sup>3</sup>
		50 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m <sup>3</sup>
		300 ppm
Ethanol (CAS 64-17-5)	PEL	1900 mg/m <sup>3</sup>
		1000 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m <sup>3</sup>
		100 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m <sup>3</sup>
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m <sup>3</sup>
		500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m <sup>3</sup>
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m <sup>3</sup>
		1000 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	PEL	435 mg/m <sup>3</sup>
		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

#### US. ACGIH Threshold Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm

**US. ACGIH Threshold Limit Values**

<b>Components</b>	<b>Type</b>	<b>Value</b>
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 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. NIOSH: Pocket Guide to Chemical Hazards**

<b>Components</b>	<b>Type</b>	<b>Value</b>
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	1 ppm
	TWA	0.1 ppm
Cumene (CAS 98-82-8)	TWA	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	Ceiling	1800 mg/m3
		510 ppm
	TWA	350 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	Ceiling	1800 mg/m3
		385 ppm
	TWA	350 mg/m3
		75 ppm
Pentane (CAS 109-66-0)	Ceiling	1800 mg/m3

UNLEADED GASOLINE

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Prepared by 3E Company

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Toluene (CAS 108-88-3)	TWA	610 ppm
		350 mg/m3
		120 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	560 mg/m3
		150 ppm
		375 mg/m3
Xylene (o, m, p isomers) (CAS 1330-20-7)	TWA	100 ppm
		655 mg/m3
		150 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	TWA	435 mg/m3
		100 ppm
		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)	0.7 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis		*
	0.4 mg/l	2,5-Hexanedion, without hydrolysis	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**

**US - California OELs: Skin designation**

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Cumene (CAS 98-82-8)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

Cumene (CAS 98-82-8)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

**US - Tennessee OELs: Skin designation**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**US ACGIH Threshold Limit Values: Skin designation**

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Cumene (CAS 98-82-8)	Can be absorbed through the skin.
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**Appropriate 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.

## Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.
<b>Skin protection</b>	
<b>Hand protection</b>	Avoid exposure - obtain special instructions before use. Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	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.
<b>Respiratory protection</b>	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.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Light straw to red clear liquid with characteristic strong odor of gasoline.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Light straw to red clear.
<b>Odor</b>	Characteristic Gasoline Odor (Strong).
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	44.01 °F (6.67 °C) May start to solidify at this temperature. This is based on data for the following ingredient: Cyclohexane. Weighted average: -91.9 deg C (-133.4 deg F)
<b>Initial boiling point and boiling range</b>	80.06 - 440.06 °F (26.7 - 226.7 °C)
<b>Flash point</b>	-40.0 °F (-40.0 °C) (closed cup)
<b>Evaporation rate</b>	10 - 11 BuAc
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	1.3 %
<b>Flammability limit - upper (%)</b>	7.1 %
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	60.8 - 101.3 kPa (20°C)
<b>Vapor density</b>	3 - 4 (Air=1)
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Very slightly soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	> 500 °F (> 260 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## Other information

Flash point class	Flammable IA
VOC (Weight %)	100 %

## 10. Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
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	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

Ingestion	Swallowing or vomiting of the liquid may result in aspiration into the lungs.
Inhalation	In high concentrations, mists/vapors may irritate throat and respiratory system and cause coughing. May cause drowsiness or dizziness.
Skin contact	Causes skin irritation. Prolonged contact may cause dryness of the skin.
Eye contact	May cause eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** 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.

### Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 3160 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2000 mg/l, 48 Hours
<i>Oral</i>		
LD50	Rat	6 g/kg
Benzene (CAS 71-43-2)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	3306 mg/kg
Cumene (CAS 98-82-8)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Mouse	2000 mg/l, 7 Hours
	Rat	8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	1400 mg/kg
Cyclohexane (CAS 110-82-7)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	12705 mg/kg

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	30000 mg/m3
Ethylbenzene (CAS 100-41-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	5.46 g/kg
n-Heptane (CAS 142-82-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	103 mg/l, 4 Hours
n-Hexane (CAS 110-54-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	28710 mg/kg
Octane (All isomers) (CAS 111-65-9)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	118 mg/l, 4 Hours
Pentane (CAS 109-66-0)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	364 mg/l, 4 Hours
Toluene (CAS 108-88-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	14.1 ml/kg
<i>Inhalation</i>		
LC50	Rat	8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	2.6 g/kg
Xylene (o, m, p isomers) (CAS 1330-20-7)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	4300 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.	
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met. This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.	
<b>Germ cell mutagenicity</b>	May cause genetic defects. 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.	

**Carcinogenicity** May cause cancer.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Gasoline (CAS 86290-81-5)	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.

**NTP Report on Carcinogens**

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.
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**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Benzene (CAS 71-43-2)	Cancer
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**Reproductive toxicity** Suspected of damaging fertility or the unborn child.  
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. Ethanol has demonstrated human effects of reproductive toxicity. 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.

**Specific target organ toxicity - single exposure** May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure** May cause damage to the following organs through prolonged or repeated exposure: Blood. Kidneys. Liver.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Chronic effects** Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.

**Further information** Symptoms may be delayed.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 7.19 - 8.28 mg/l, 96 hours
Benzene (CAS 71-43-2)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> ) 8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> ) 7.2 - 11.7 mg/l, 96 hours
Cumene (CAS 98-82-8)		
<b>Aquatic</b>		
Crustacea	EC50	Brine shrimp ( <i>Artemia sp.</i> ) 3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> ) 2.7 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 3.961 - 5.181 mg/l, 96 hours
		Striped bass ( <i>Morone saxatilis</i> ) 8.3 mg/l, 96 hours

Components	Species	Test Results	
Ethanol (CAS 64-17-5)			
<b>Aquatic</b>			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Ethylbenzene (CAS 100-41-4)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	4 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
<b>Aquatic</b>			
Fish	LC50	Western mosquitofish ( <i>Gambusia affinis</i> )	4924 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
<b>Aquatic</b>			
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Pink salmon ( <i>Oncorhynchus gorbuscha</i> )	6.86 - 8.48 mg/l, 96 hours
Xylene (o, m, p isomers) (CAS 1330-20-7)			
<b>Aquatic</b>			
Fish	LC50	Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	8 mg/l, 96 Hours

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

Benzene (CAS 71-43-2)	2.13
Cumene (CAS 98-82-8)	3.66
Cyclohexane (CAS 110-82-7)	3.44
Ethanol (CAS 64-17-5)	-0.31
Ethylbenzene (CAS 100-41-4)	3.15
Hexane (Other Isomers) (CAS 96-14-0)	3.6
Octane (All isomers) (CAS 111-65-9)	5.18
Pentane (CAS 109-66-0)	3.39
Toluene (CAS 108-88-3)	2.73
Xylene (o, m, p isomers) (CAS 1330-20-7)	3.2
n-Heptane (CAS 142-82-5)	4.66
n-Hexane (CAS 110-54-3)	3.9

**Mobility in soil** Not available.

**Other adverse effects** Not available.

### 13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. 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.

**Hazardous waste code** 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
Cumene (CAS 98-82-8)	U055
Cyclohexane (CAS 110-82-7)	U056
Toluene (CAS 108-88-3)	U220
Xylene (o, m, p isomers) (CAS 1330-20-7)	U239

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

## 14. Transport information

### DOT

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	139, B33, B101, T8
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	3H
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN1203
<b>UN proper shipping name</b>	Gasoline
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-E, S-E
<b>Special precautions for user</b>	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 applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

## 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)

Benzene (CAS 71-43-2)	Cancer
-----------------------	--------

Central nervous system  
Blood  
Aspiration  
Skin  
Eye  
Respiratory tract irritation  
Flammability

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Benzene (CAS 71-43-2)	LISTED
Cumene (CAS 98-82-8)	LISTED
Cyclohexane (CAS 110-82-7)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Ethylbenzene (CAS 100-41-4)	LISTED
Gasoline (CAS 86290-81-5)	LISTED
Hexane (Other Isomers) (CAS 96-14-0)	LISTED
n-Heptane (CAS 142-82-5)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
Octane (All isomers) (CAS 111-65-9)	LISTED
Pentane (CAS 109-66-0)	LISTED
Toluene (CAS 108-88-3)	LISTED
Xylene (o, m, p isomers) (CAS 1330-20-7)	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)**

<b>Chemical name</b>	<b>CAS number</b>	<b>% by wt.</b>
Toluene	108-88-3	0-30
Xylene (o, m, p isomers)	1330-20-7	0-25
1,2,4, Trimethylbenzene	95-63-6	0-6
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

**Other federal regulations**

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

Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Ethylbenzene (CAS 100-41-4)  
n-Hexane (CAS 110-54-3)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Pentane (CAS 109-66-0)

**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**

Toluene (CAS 108-88-3) 6594

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Toluene (CAS 108-88-3) 35 % weight/volumn

**DEA Exempt Chemical Mixtures Code Number**

Toluene (CAS 108-88-3) 594

**US state regulations**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**US. Massachusetts RTK - Substance List**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
Hexane (Other Isomers) (CAS 96-14-0)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

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

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

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

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethanol (CAS 64-17-5)  
Ethylbenzene (CAS 100-41-4)  
Gasoline (CAS 86290-81-5)  
Hexane (Other Isomers) (CAS 96-14-0)  
n-Heptane (CAS 142-82-5)  
n-Hexane (CAS 110-54-3)  
Octane (All isomers) (CAS 111-65-9)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

**US. Rhode Island RTK**

1,2,4, Trimethylbenzene (CAS 95-63-6)  
Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Cyclohexane (CAS 110-82-7)  
Ethylbenzene (CAS 100-41-4)  
n-Hexane (CAS 110-54-3)  
Pentane (CAS 109-66-0)  
Toluene (CAS 108-88-3)  
Xylene (o, m, p isomers) (CAS 1330-20-7)

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

Benzene (CAS 71-43-2)  
Cumene (CAS 98-82-8)  
Ethylbenzene (CAS 100-41-4)  
Toluene (CAS 108-88-3)

## 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)	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

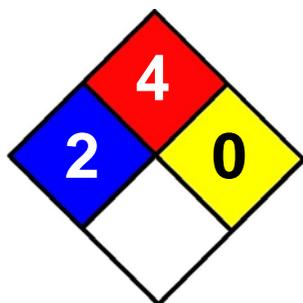
\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

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	13-May-2013
Revision date	23-May-2014
Version #	03
Further information	HMIS® is a registered trade and service mark of the NPCA.

### NFPA Ratings



### 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

This material Safety Data Sheet (SDS) 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 SDS 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.

# SAFETY DATA SHEET

<b>SECTION 1</b>	<b>IDENTIFICATION</b>
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**PRODUCT**

**ATLANTIS**

**Product Name :** ATLANTIS

**Product Description :** A lubricating oil consisting of a mixture of saturated and unsaturated hydrocarbons derived from naphthenic distillate, and additives

**SDS Number :** 00001

**Intended Use:** Dissolved Gas in Electrical Insulating Oil Standard

**COMPANY IDENTIFICATION**

**Supplier:** Morgan Schaffer Inc.  
 Laboratory  
 8300 Saint-Patrick, suite 150  
 La Salle, Québec  
 Canada  
 H8N 2H1

**Supplier General Contact:** (514) 739-1967

**Product Technical Information:** (514) 739-1967 ext. 2012

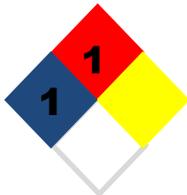
<b>SECTION 2</b>	<b>HAZARDS IDENTIFICATION</b>
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This material is considered to be hazardous according to regulatory guideline see Section 15.

**HEALTH EFFECTS**

If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat, and lungs. Frequent or prolonged contact may de-fat and dry the skin, leading to discomfort and dermatitis.

**NFPA Hazard ID**



Health 1  
 Flammability 1  
 Reactivity 0

**HMIS Hazard ID**

Health	<b>1</b>
Flammability	<b>1</b>
Reactivity	<input type="checkbox"/>
Personal Protection	<input type="checkbox"/>

**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

No Reportable Hazardous Substance(s) or complex Substance(s).

### 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. Remove contaminated clothing. Launder contaminated clothing before reuse.

#### EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

#### INGESTION

Seek immediate medical attention. Do not induce vomiting.

#### NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

### SECTION 5 FIRST FIGHTING MEASURES

#### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight streams of water

#### FIRE FIGHTING

**Fire Fighting Instructions:** evacuate area. Prevent run-off from fire control or dilution from entering streams sewers or drinking water supply. Fire-fighters 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:** Smoke, Fume, Sulphur Oxides, Aldehydes, Oxides of carbon, Incomplete combustion products

#### FLAMMABILITY PROPERTIES

**Flash Point (method):** >145 °C (293°F) (ASTMD-92)

**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D

**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.

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 so without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so 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:** Dyke 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

Avoid contact with skin. 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 earthing procedures. However, bonding and earthing 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

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.

Do not handle or store near an open flame, source of heat, or sources of ignition. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
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Substance Name	Form	Limit/Standard		source
HYDROTREATED LIGHT	Inhalable	TWA	5 mg/m <sup>3</sup>	ACGIH
NAPHTHENIC DISTILLATE (PETROLEUM)	fraction			
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m <sup>3</sup>	ACGIH
LUBRICATING OILS (PETROLEUM), HYDROTREATED NEUTRAL OIL-BASED	Inhalable fraction	TWA	5 mg/m <sup>3</sup>	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following is recommended: 5 mg/m<sup>3</sup> - ACGIH TLV (inhalable fraction).

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

**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. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves.

**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:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.



**SECTION 11 TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

Route of Exposure	Conclusion / Remarks
<b>INHALATION</b>	
Toxicity: No end point data for material	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data for material	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on assessment of the components.
<b>INGESTION</b>	
Toxicity: No end point data for material	Minimally Toxic. Based on test data for structurally similar materials.
<b>Skin</b>	
Toxicity: No end point data for material	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data for material	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
<b>Eye</b>	
Irritation: No end point data for material	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

**OCCUPATIONAL EXPOSURE LIMIT:**

ACGIH recommends: For oil mists, 5mg/m<sup>3</sup>. Local regulated limits may vary

**CHRONIC/OTHER EFFECTS**

**For the product itself:**

Prolonged and/or repeated skin contact with low viscosity materials may deflate the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

**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 nonspecific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

**CMR Status:** None.

Chemical Name	CAS Number	List Citations
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64742-53-6	4
LUBRICATING OILS (PETROLEUM), HYDROTREATED NEUTRAL OIL-BASED	72623-86-0	4

--REGULATORY LISTS SEARCHED--

1 = IARC 1  
2 = IARC 2A

3 = IARC 2B  
4 = ACGIH ALL

5 = ACGIH A1  
6 = ACGIH A2

**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 – Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

**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

<b>SECTION 13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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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**

**Empty Container Warning** (where applicable): Empty containers may retain residue and can be dangerous.

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. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**LAND (TDG)** : Not Regulated for Land Transport

**LAND (DOT)** : Not Regulated for Land Transport

**SEA (IMDG)** : Not Regulated for Sea Transport according to IMDG-Code

**AIR (IATA)** : Not Regulated for Air Transport

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**WHMIS Classification:** Not controlled

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations.

**CEPA:** All components of this material are either on the Canadian Domestic Substances List (DSL), exempt, or have been notified under CEPA.

**NATIONAL CHEMICAL INVENTORY LISTING:** DSL, TSCA

**The Following Ingredients are Cited on the Lists Below:** None

--REGULATORY LISTS SEARCHED--

1 = TSCA 4  
2 = TSCA 5a2

3 = TSCA 5e  
4 = TSCA 6

5 = TSCA 12b  
6 = NPRI

**SECTION 16**

**OTHER INFORMATION**

N/D = Not determined, N/A = Not applicable

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

No revision information is available. New SDS created under the new WHMIS 2015 regulations.

**PRECAUTIONARY LABEL TEXT:**

WHMIS Classification: Not controlled

**HEALTH HAZARDS**

Frequent or prolonged contact may de-fat and dry the skin, leading to discomfort and dermatitis. If swallowed, may be aspirated and cause lung damage.

**PRECAUTIONS**

Avoid contact with skin.

**FIRST AID**

**Oral:** Seek immediate medical attention. Do not induce vomiting.

**Skin:** Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

**FIRE FIGHTING MEDIA**

Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**SPILL/LEAK**

**Land Spill:** Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

**Use:** Not intended or suitable for use in or around a household or dwelling.

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"The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any other process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This SDS is for the use of Morgan Schaffer Inc. Clients and their employees and agents only. Any further distribution of this SDS by Morgan Schaffer Inc. clients is prohibited without the written consent of Morgan Schaffer Inc."  
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# Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)



## SECTION 1: Identification

<b>Product Identifier</b>	<b>Jet A</b>
<b>Other means of identification</b>	Aviation Fuel; Aviation Fuel – Jet; Aviation Turbine Fuel; Jet 51 Grade; Jet 54 Grade; Jet 56 Grade; JAA with Additives; JAA without Additives; JAA with CI Additive; Jet A 1; Jet A LS; Jet Buckeye 182; Jet FTZ; Jet Fuel; Jet Low Aromatic; Jet Raw; Turbine Fuel
<b>SDS Number</b>	<b>001975</b>
<b>MARPOL Annex I Category</b>	Kerosenes
<b>Relevant identified uses</b>	Aviation Turbine Fuel
<b>Uses advised against</b>	All others
<b>24 Hour Emergency Phone Number</b>	CHEMTREC 1-800-424-9300 CANUTEC 613-996-6666 CHEMTREC Mexico 01-800-681-9531

<b>Manufacturer/Supplier</b>	<b>SDS Information</b>	<b>Customer Service</b>
66 Aviation Products A Division of Phillips 66 Company 600 N. Dairy Ashford Houston, Texas 77079-1175	Phone: 800-762-0942 Email: SDS@P66.com	800-234-6603 <b>Technical Information</b> <b>918-977-4224</b>

## SECTION 2: Hazard identification

<b>Classified Hazards</b>	<b>Hazards Not Otherwise Classified (HNOC)</b>
H226 - Flammable liquids -- Category 3 H315 -- Skin corrosion/irritation -- Category 2 H304 -- Aspiration Hazard -- Category 1 H336 -- Specific target organ toxicity (single exposure) -- Category 3 H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2	PHNOC: Electrostatic charge may be generated during pumping and other operations  HHNOC: None known

### Label Elements



#### DANGER

Flammable liquid and vapor  
Causes skin irritation  
May be fatal if swallowed and enters airways  
May cause drowsiness or dizziness  
Toxic to aquatic life with long lasting effects



Keep away from heat/sparks/open flames/hot surfaces. - No smoking; Ground/bond container and receiving equipment; Use only non-sparking tools; Take precautionary measures against static discharge; Avoid breathing dust/fume/gas/mist/vapours/spray; Wash skin thoroughly after handling; Use only outdoors or in a well-ventilated area; Avoid release to the environment; Wear protective gloves/protective clothing and eye/face protection; IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; Do NOT induce vomiting; 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; Call a POISON CENTER or doctor/physician if you feel unwell; Take off contaminated clothing and wash before reuse; In case of fire: Use CO2, dry chemical, or foam for extinction; Store in a well-ventilated place. Keep container tightly closed; Dispose of contents/container to an approved waste disposal plant



### SECTION 3: Composition/information on ingredients

Chemical Name	CASRN	Concentration <sup>1</sup>
Petroleum distillates, hydrotreated light	64742-47-8	0-100
Kerosine, petroleum, hydrodesulfurized	64742-81-0	0-100
Kerosine, petroleum	8008-20-6	0-100
Naphthalene	91-20-3	<3.5
Ethylbenzene	100-41-4	<1

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### SECTION 4: First aid measures

**Eye Contact:** If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin Contact:** Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse.

**Inhalation:** If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

**Ingestion:** Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

**Most important symptoms and effects, both acute and delayed:** While significant vapor concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Prolonged or repeated contact may dry skin and cause irritation

### SECTION 5: Firefighting measures

#### NFPA 704 Hazard Class

Health: 1    Flammability: 2    Instability: 0



0 (Minimal)  
1 (Slight)  
2 (Moderate)  
3 (Serious)  
4 (Severe)

**Extinguishing Media:** Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

#### Specific hazards arising from the chemical

**Unusual Fire & Explosion Hazards:** Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe) Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

**Special protective actions for firefighters:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate the hazard area and deny entry to unnecessary and unprotected personnel Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

**See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits**

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods and material for containment and cleaning up:** Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

## SECTION 7: Handling and storage

**Precautions for safe handling:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Flammable. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. carbon monoxide, oxides of sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Static Accumulation Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are 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. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). 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'.

**Conditions for safe storage:** Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

**SECTION 8: Exposure controls/personal protection**

Chemical Name	ACGIH	OSHA	Other
Petroleum distillates, hydrotreated light	TWA: 200 mg/m <sup>3</sup> Skin	---	200 mg/m <sup>3</sup> TWA8hr 100 mg/m <sup>3</sup> TWA12hr 28 ppm TWA8hr 14 ppm TWA12hr (Phillips 66 Guidelines)
Kerosine, petroleum, hydrodesulfurized	TWA: 200 mg/m <sup>3</sup> Skin	---	200 mg/m <sup>3</sup> TWA8hr 100 mg/m <sup>3</sup> TWA12hr 28 ppm TWA8hr 14 ppm TWA12hr (Phillips 66 Guidelines)
Kerosine, petroleum	TWA: 200 mg/m <sup>3</sup> Skin	---	200 mg/m <sup>3</sup> TWA8hr 100 mg/m <sup>3</sup> TWA12hr 28 ppm TWA8hr 14 ppm TWA12hr (Phillips 66 Guidelines)
Naphthalene	TWA: 10 ppm Skin	TWA: 10 ppm : 50 mg/m <sup>3</sup>	---
Ethylbenzene	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup>	20 ppm TWA8hr 10 ppm TWA12hr 87 mg/m <sup>3</sup> TWA8hr 43.5 mg/m <sup>3</sup> TWA12hr (Phillips 66 Guidelines)

**Note:** State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

**Other Protective Equipment:** Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

## SECTION 9: Physical and chemical properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

**Appearance:** clear, light yellow or light green

**Physical Form:** Liquid

**Odor:** Kerosene

**Odor Threshold:** No data

**pH:** Not applicable

**Vapor Density (air=1):** > 4.5

**Upper Explosive Limits (vol % in air):** 4.7

**Lower Explosive Limits (vol % in air):** 0.6

**Evaporation Rate (nBuAc=1):** <1

**Particle Size:** Not applicable

**Percent Volatile:** 98-100% @ 545°F (285°C)

**Flammability (solid, gas):** Not applicable

**Flash Point:** 100-150 °F / 38-66 °C

**Test Method:** Tag Closed Cup (TCC), ASTM D56

**Initial Boiling Point/Range:** 300 - 572 °F / 149 - 300 °C

**Vapor Pressure:** 0.40 mmHg

**Partition Coefficient (n-octanol/water) (Kow):** No data

**Melting/Freezing Point:** < -40 °F / < -40 °C

**Auto-ignition Temperature:** 410 °F / 210 °C

**Decomposition Temperature:** No data

**Specific Gravity (water=1):** 0.775-0.840 @ 68°F (20°C)

**Bulk Density:** 6.73 lbs/gal

**Viscosity:** 1.5-2.5 cSt typical @ 68°F (20°C) / 8 max cSt @ -4°F (-20°C)

**Solubility in Water:** <0.1%

## SECTION 10: Stability and reactivity

**Reactivity:** Not chemically reactive.

**Chemical stability:** Stable under normal ambient and anticipated conditions of use.

**Possibility of hazardous reactions:** Hazardous reactions not anticipated.

**Conditions to avoid:** Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

**Incompatible materials:** Avoid contact with strong oxidizing agents and strong reducing agents.

**Hazardous decomposition products:** Not anticipated under normal conditions of use.

## SECTION 11: Toxicological information

### Information on Toxicological Effects

#### Substance / Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Unlikely to be harmful		>5.2 mg/L (mist)
Dermal	Unlikely to be harmful		> 2 g/kg
Oral	Unlikely to be harmful		> 5 g/kg

**Aspiration Hazard:** May be fatal if swallowed and enters airways

**Skin Corrosion/Irritation:** Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

**Serious Eye Damage/Irritation:** Causes mild eye irritation.

**Skin Sensitization:** Not expected to be a skin sensitizer.

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness and dizziness.

**Specific Target Organ Toxicity (Repeated Exposure):** Not expected to cause organ effects from repeated exposure.

**Carcinogenicity:** Not expected to cause cancer. Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation.

**Germ Cell Mutagenicity:** Not expected to cause heritable genetic effects.

**Reproductive Toxicity:** Not expected to cause reproductive toxicity. Hydrodesulfurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (pre-mating, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

**Other Comments:** Naphthalene has been shown to cause cataracts in humans upon eye contact with vapors or dusts, and upon ingestion or inhalation in laboratory animals.

#### Information on Toxicological Effects of Components

##### Naphthalene

**Carcinogenicity:** Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

##### Ethylbenzene

**Carcinogenicity:** Rats and mice exposed to 0, 75, 250, or 750 ppm ethyl benzene in a two year inhalation study demonstrated limited evidence of kidney, liver, and lung cancer. Ethyl benzene has been listed as a possible human carcinogen by IARC.

**Target Organ(s):** In rats and mice exposed to 0, 75, 250, or 750 ppm ethyl benzene in a two year inhalation study there was mild damage to the kidney (tubular hyperplasia), liver (eosinophilic foci, hypertrophy, necrosis), lung (alveolar epithelium metaplasia), thyroid (hyperplasia), thyroid (hyperplasia) and pituitary (hyperplasia). In animal models (particularly rats), ethyl benzene affects the auditory function mainly in the cochlear mid-frequency range and ototoxicity was observed after combined exposure to noise and ethyl benzene. There is no evidence of either ethyl benzene-induced hearing losses or ototoxicity with combined exposure to ethyl benzene and noise in workers.

## SECTION 12: Ecological information



**GHS Classification:**  
**H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2**  
Toxic to aquatic life with long lasting effects.

**Toxicity:** Acute aquatic toxicity studies on samples of jet fuel and kerosene streams show acute toxicity values greater than 1 mg/L and mostly in the range 1-100 mg/L. These tests were carried out on water accommodated fractions, in closed systems to prevent evaporative loss. Results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon composition. Kerosenes should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

**Persistence and Degradability:** The hydrocarbons in this material are not readily biodegradable but are regarded as inherently biodegradable since their hydrocarbon components can be degraded by microorganisms.

**Persistence per IOPC Fund definition:** Non-Persistent

**Bioaccumulative Potential:** Hydrocarbon constituents of kerosene show measured or predicted Log Kow values ranging from 3 to 6 and above and therefore would be regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

**Mobility in Soil:** On release to water, hydrocarbons will float on the surface and since they are sparingly soluble, the only significant loss is volatilization to air. It is possible that some of the higher molecular weight hydrocarbons will be adsorbed on sediment. Biodegradation in water is a minor loss process. In air, these hydrocarbons are photodegraded by reaction with hydroxyl radicals with half lives varying from 0.1 to 0.7 days.

**Other adverse effects:** None anticipated.

## SECTION 13: Disposal considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste. Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinseates could be considered to be hazardous wastes.

**EPA Waste Number(s)**

- D001 - Ignitability characteristic

**SECTION 14: Transport information**

**U.S. Department of Transportation (DOT)**

UN Number: UN1863

UN proper shipping name: Fuel, aviation, turbine engine,

Transport hazard class(es): 3

Packing Group: III

Environmental Hazards: Marine pollutant - Environmentally Hazardous

Special precautions for user: *If transported in bulk by marine vessel in international waters, product is being carried under the scope of MARPOL Annex I.*

Container(s) greater than 5 liters (liquids) or 5 kilograms (solids), shipped by water mode and ALL bulk shipments may require the shipping description to contain the "Marine Pollutant" notation [49 CFR 172.203(l)] and the container(s) to display the [Marine Pollutant Mark] [49 CFR 172.322].

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

**SECTION 15: Regulatory information**

**CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):**

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

**CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**

Acute Health Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

**CERCLA/SARA - Section 313 and 40 CFR 372:**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration <sup>1</sup>	de minimis
Naphthalene	<3.5	0.1%
Ethylbenzene	<1	0.1%

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**EPA (CERCLA) Reportable Quantity (in pounds):**

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

**California Proposition 65:**

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Chemical Name	Type of Toxicity
Naphthalene	Cancer

Ethylbenzene	Cancer
Toluene	Developmental Toxicant
Benzene	Cancer Developmental Toxicant Male Reproductive Toxicant

**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 the Regulations.

**International Inventories**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.  
All components are either on the DSL, or are exempt from DSL listing requirements.

**U.S. Export Control Classification Number:** EAR99

**SECTION 16: Other information**

Issue Date:	Previous Issue Date:	SDS Number	Status:
10-Dec-2015	10-Apr-2014	001975	FINAL

**Revised Sections or Basis for Revision:**

Composition (Section 3); Exposure limits (Section 8); Regulatory information (Section 15)

**Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

**Disclaimer of Expressed and implied Warranties:**

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. 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 THE INFORMATION PROVIDED ABOVE, 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. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

## SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** MOBILGREASE 28  
**Product Description:** Synthetic Base Stocks and Additives  
**Product Code:** 201550402020, 970934  
**Intended Use:** Grease

#### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
22777 Springwoods Village Parkway  
Spring, TX. 77253 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. Secondary amines or materials containing secondary amines should not be added to this product due to the risk of forming nitrosamines, some of which have been shown to be carcinogenic in lab animals.

#### ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

<b>NFPA Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0

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**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.

<b>SECTION 3</b>	<b>COMPOSITION / INFORMATION ON INGREDIENTS</b>
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This material is defined as a mixture.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

Name	CAS#	Concentration*	GHS Hazard Codes
1-NAPHTHYLAMINE, N-PHENYL-	90-30-2	0.1 - < 1%	H302, H317, H400(M factor 1), H410(M factor 1)
ALKYLATED DIPHENYL AMINES	68411-46-1	1 - < 5%	H402, H412
HYDROXYALKARYL LONG-CHAIN AKYL ESTER	2082-79-3	1 - < 5%	H413
N-OLEYLSARCOSINE	110-25-8	0.1 - < 1%	H315, H318, H400(M factor 1), H410(M factor 1)
PENTAERYTHRITOL	115-77-5	1 - < 5%	None
SODIUM NITRITE	7632-00-0	0.1 - < 1%	H271(S), H301, H370, H400(M factor 1)
SODIUM PHOSPHATE, TRIBASIC	10101-89-0	0.1 - < 1%	H315, H319(2A), H335

\* 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).

<b>SECTION 4</b>	<b>FIRST AID MEASURES</b>
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**INHALATION**

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

**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.

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<b>SECTION 5</b>	<b>FIRE FIGHTING MEASURES</b>
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#### **EXTINGUISHING MEDIA**

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) 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:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

#### **FLAMMABILITY PROPERTIES**

**Flash Point [Method]:** 232°C (450°F) [EST. FOR OIL, ASTM D-92 (COC)]

**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D

**Autoignition Temperature:** N/D

<b>SECTION 6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
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#### **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.

#### **SPILL MANAGEMENT**

**Land Spill:** Stop leak if you can do it without risk. Scrape up spilled material with shovels into a suitable container for recycle or disposal.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface.

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.

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## ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Prevent small spills and leakage to avoid slip hazard. Contains Sodium nitrite. Do not add amines which may form cancer causing nitrosamines.

**Static Accumulator:** This material is not a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard		NOTE	Source
PENTAERYTHRITOL	Respirable fraction.	TWA	5 mg/m3	N/A	OSHA Z1
PENTAERYTHRITOL	Total dust.	TWA	15 mg/m3	N/A	OSHA Z1
PENTAERYTHRITOL		TWA	10 mg/m3	N/A	ACGIH
SODIUM PHOSPHATE, TRIBASIC		STEL	5 mg/m3	N/A	OARS WEEL

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 protection is ordinarily required under normal conditions of use and with adequate ventilation.

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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.

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
------------------	---

**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:** Solid  
**Form:** Semi-fluid  
**Color:** Red  
**Odor:** Characteristic  
**Odor Threshold:** N/D

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 °C):** 0.946  
**Flammability (Solid, Gas):** N/A  
**Flash Point [Method]:** 232°C (450°F) [EST. FOR OIL, ASTM D-92 (COC)]  
**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** > 316°C (600°F) [Estimated]  
**Decomposition Temperature:** N/D  
**Vapor Density (Air = 1):** N/D  
**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]

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**Evaporation Rate (n-butyl acetate = 1):** N/D

**pH:** N/A

**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5 [Estimated]

**Solubility in Water:** Negligible

**Viscosity:** 28 cSt (28 mm<sup>2</sup>/sec) at 40 °C | 5.2 cSt (5.2 mm<sup>2</sup>/sec) at 100°C

**Oxidizing Properties:** See Hazards Identification Section.

#### OTHER INFORMATION

**Freezing Point:** N/D

**Melting Point:** N/D

NOTE: Most physical properties above are for the oil component in the material.

### 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

<u>Hazard Class</u>	<u>Conclusion / Remarks</u>
<b>Inhalation</b>	
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. Based on assessment of the components.
<b>Ingestion</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
<b>Skin</b>	
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.
<b>Eye</b>	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
<b>Sensitization</b>	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.

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Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
<b>Aspiration:</b> Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
<b>Germ Cell Mutagenicity:</b> No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
<b>Carcinogenicity:</b> No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
<b>Reproductive Toxicity:</b> No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
<b>Lactation:</b> No end point data for material.	Not expected to cause harm to breast-fed children.
<b>Specific Target Organ Toxicity (STOT)</b>	
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.

### TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1-NAPHTHYLAMINE, N-PHENYL-	Oral Lethality: LD50 1625 mg/kg (Rat)

### 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:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Phenyl-alpha-naphthylamine (PAN): Undiluted PAN is a skin sensitizer. Human testing with lubricants containing 1.0% PAN caused no reactions indicative of sensitization.

SODIUM NITRITE: Ingestion of sodium nitrite may reduce the oxygen-carrying capacity of blood and may cause cyanosis (bluish skin), shortness of breath, palpitations, coma, and/or death.

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

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Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

#### **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.

<b>SECTION 13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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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**

Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

#### **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.**

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**LAND (DOT):** Not Regulated for Land Transport

**LAND (TDG):** Not Regulated for Land Transport

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**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

**AIR (IATA):** Not Regulated for Air Transport

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**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, IECSC, TSCA  
**Special Cases:**

Inventory	Status
KECI	Restrictions Apply

**PRODUCT REGISTRATION STATUS:** USA

**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
PENTAERYTHRITOL	115-77-5	1, 4, 13, 16, 17

--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

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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N/D = Not determined, N/A = Not applicable

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

H271: May cause fire or explosion; strong oxidizer; Oxidizing Solid, Cat 1

H301: Toxic if swallowed; Acute Tox Oral, Cat 3

H302: Harmful if swallowed; Acute Tox Oral, Cat 4

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H317: May cause allergic skin reaction; Skin Sensitization, Cat 1

H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1

H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A

H335: May cause respiratory irritation; Target Organ Single, Resp Irr

H370: Causes damage to organs; Target Organ, Single, Cat 1

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

H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox, Cat 4

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Revision Changes:

Section 01: Company Mailing Address information was modified.

Section 05: Hazardous Combustion Products information was modified.

Section 09: Flammability (Solid, Gas) information was modified.

Section 14: Marine Pollutant information was modified.

Section 16: Revision Information - Implementation of GHS requirements phrase. information was deleted.

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Internal Use Only

MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2006172XUS (553106)

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# SAFETY DATA SHEET

Revision Date: 17-Dec-2015

Revision Number: 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** EPOXY MASTIC CLEAR BASE  
**Product Code** V160-88  
**Alternate Product Code** V16088  
**Product Class** EPOXY  
**Color** Clear  
**Recommended use** Paint  
**Restrictions on use** No information available

**Manufacturer** Benjamin Moore & Co.  
101 Paragon Drive  
Montvale, NJ 07645  
Phone: 800-225-5554  
corotechcoatings.com

**Emergency Telephone Number(s)**  
CHEMTREC (US): 800-424-9300  
CHEMTREC (outside US): (703)-527-3887

## 2. HAZARDS IDENTIFICATION

### Classification

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 2B
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 2
Specific target organ toxicity (repeated exposure)	Category 1
Flammable liquids	Category 3

### Label elements

**Danger**

**Hazard statements**  
Causes skin irritation  
Causes eye irritation  
May cause an allergic skin reaction  
May cause cancer  
May cause damage to organs  
Causes damage to organs through prolonged or repeated exposure  
Flammable liquid and vapor



**Appearance** 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  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves  
Do not breathe dust/fume/mist/vapors/spray  
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 explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge

#### **Precautionary Statements - Response**

If exposed or concerned get medical 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 attention

##### **Skin**

If skin irritation or rash occurs get medical attention

If on skin (or hair) take off immediately all contaminated clothing. Rinse skin with water

Wash contaminated clothing before reuse

##### **Fire**

In case of fire use CO<sub>2</sub>, 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)**

Not Applicable

#### **Other information**

No information available

#### **Other Hazards**

**IMPORTANT:** Designed to be mixed with other components. Mixture will have hazards of all components. Before opening packages, read all warning labels. Follow all precautions.

Chemical Name	CAS-No	Weight % (max)
Kaolin, calcined	66402-68-4	20
Silica, crystalline	14808-60-7	15
Benzyl alcohol	100-51-6	15
Talc	14807-96-6	15
Xylene	1330-20-7	10
Propylene glycol monomethyl ether	107-98-2	5
Ethyl benzene	100-41-4	5
Triethylenetetramine	112-24-3	5
Solvent naphtha, petroleum, light aromatic	64742-95-6	5

#### 4. FIRST AID MEASURES

##### First aid measures

<b>General Advice</b>	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. Call a physician immediately.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Protection Of First-Aiders</b>	Use personal protective equipment.
<b>Most Important Symptoms/Effects</b>	No information available.
<b>Notes To Physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable Properties</b>	Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause flash fire.
<b>Suitable Extinguishing Media</b>	Foam, dry powder or water. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment And Precautions For Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Specific Hazards Arising From The Chemical</b>	Flammable. Flash back possible over considerable distance. Keep product and empty container away from heat and sources of ignition. Closed containers may rupture if exposed to fire or extreme heat. Thermal

	decomposition can lead to release of irritating gases and vapors.
<b>Sensitivity To Mechanical Impact</b>	No
<b>Sensitivity To Static Discharge</b>	Yes
<b>Flash Point Data</b>	
Flash Point (°F)	80
Flash Point (°C)	27
Flash Point Method	PMCC
<b>Flammability Limits In Air</b>	
Lower Explosion Limit	Not available
Upper Explosion Limit	Not available

**NFPA**    **Health:** 1        **Flammability:** 3        **Instability:** 0        **Special:** Not Applicable

#### NFPA Legend

- 0 - Not Hazardous
- 1 - Slightly
- 2 - Moderate
- 3 - High
- 4 - Severe

*The ratings assigned are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.*

*Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at [www.nfpa.org](http://www.nfpa.org).*

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Take precautions to prevent flashback. Ground and bond all containers and handling equipment. Take precautionary measures against static discharges. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.
<b>Other Information</b>	Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods For Clean-Up</b>	Dam up. Soak up with inert absorbent material. Use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapors or spray mist. Use only in ventilated areas. Prevent vapor build-up by providing adequate ventilation during and after use.
	Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. 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. Ignition and/or flash

back may occur.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Keep away from open flames, hot surfaces and sources of ignition. Keep in properly labeled containers. Keep out of the reach of children.

**Incompatible Materials** No information available

**Technical measures/Precautions** Ensure adequate ventilation. Use only where airflow will keep vapors from building up in or near the work area in adjoining rooms. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing and disposal of flammable liquids.

Dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. All equipment should be non-sparking and explosion proof. Use explosion proof electrical equipment for ventilation, lighting and material handling.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Limits

Chemical Name	ACGIH	OSHA
Kaolin, calcined	5 mg/m <sup>3</sup> - TWA 0.02 mg/m <sup>3</sup> - TWA 0.1 mg/m <sup>3</sup> - TWA 10 mg/m <sup>3</sup> - STEL	5 mg/m <sup>3</sup> - TWA
Silica, crystalline	0.025 mg/m <sup>3</sup> - TWA	respirable - (10)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA respirable - (250)/(%SiO <sub>2</sub> + 5) mppcf TWA total dust - (30)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA
Talc	2 mg/m <sup>3</sup> - TWA	20 mppcf - TWA
Xylene	100 ppm - TWA 150 ppm - STEL	100 ppm - TWA 435 mg/m <sup>3</sup> - TWA
Propylene glycol monomethyl ether	100 ppm - TWA 150 ppm - STEL	N/E
Ethyl benzene	20 ppm - TWA	100 ppm - TWA 435 mg/m <sup>3</sup> - TWA

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits

OSHA - Occupational Safety & Health Administration Exposure Limits

N/E - Not Established

### Appropriate engineering controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

#### Eye/Face Protection

Safety glasses with side-shields.

#### Skin Protection

Long sleeved clothing. Protective gloves.

#### Respiratory Protection

Use only with adequate ventilation. In operations where exposure limits are exceeded, use a NIOSH approved respirator that has been selected by a technically qualified person for the specific work conditions. When spraying the product or applying in confined areas, wear a NIOSH approved respirator specified for paint spray or organic vapors.

**Hygiene Measures**

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	liquid
<b>Odor</b>	solvent
<b>Odor Threshold</b>	No information available
<b>Density (lbs/gal)</b>	11.1 - 11.2
<b>Specific Gravity</b>	1.33 - 1.34
<b>pH</b>	No information available
<b>Viscosity (cps)</b>	No information available
<b>Solubility</b>	No information available
<b>Water Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	No information available
<b>Wt. % Solids</b>	80 - 90
<b>Vol. % Solids</b>	70 - 80
<b>Wt. % Volatiles</b>	10 - 20
<b>Vol. % Volatiles</b>	20 - 30
<b>VOC Regulatory Limit (g/L)</b>	<250
<b>Boiling Point (°F)</b>	248
<b>Boiling Point (°C)</b>	120
<b>Freezing Point (°F)</b>	No information available
<b>Freezing Point (°C)</b>	No information available
<b>Flash Point (°F)</b>	80
<b>Flash Point (°C)</b>	27
<b>Flash Point Method</b>	PMCC
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper Explosion Limit</b>	No information available
<b>Lower Explosion Limit</b>	No information available
<b>Autoignition Temperature (°F)</b>	No information available
<b>Autoignition Temperature (°C)</b>	No information available
<b>Decomposition Temperature (°F)</b>	No information available
<b>Decomposition Temperature (°C)</b>	No information available
<b>Partition Coefficient (n-octanol/water)</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No data available
<b>Chemical Stability</b>	Stable under normal conditions. Hazardous polymerisation does not occur.
<b>Conditions To Avoid</b>	Keep away from open flames, hot surfaces, static electricity and sources of ignition. Sparks. Elevated temperature.
<b>Incompatible Materials</b>	Incompatible with strong acids and bases and strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapors.
<b>Possibility Of Hazardous Reactions</b>	None under normal conditions of use.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

#### Information on likely routes of exposure

**Principal Routes of Exposure** Eye contact, skin contact and inhalation.

#### Acute Toxicity

**Product Information** Repeated or prolonged exposure to organic solvents may lead to permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

#### Information on toxicological effects

**Symptoms** No information available

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

<b>Eye contact</b>	Contact with eyes may cause irritation.
<b>Skin contact</b>	May cause skin irritation and/or dermatitis. Prolonged skin contact may defat the skin and produce dermatitis.
<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause irritation to mucous membranes. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.
<b>Inhalation</b>	Harmful by inhalation. High vapor / aerosol concentrations are irritating to the eyes, nose, throat and lungs and may cause headaches, dizziness, drowsiness, unconsciousness, and other central nervous system effects.
<b>Sensitization:</b>	No information available
<b>Neurological Effects</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Target Organ Effects</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure if inhaled. Contains: Crystalline Silica which has been determined to be carcinogenic to humans by IARC (1) when in respirable form. Risk of cancer depends on duration and level of inhalation exposure to spray mist or dust from sanding the dried paint.
<b>STOT - single exposure</b>	No information available.
<b>Other adverse effects</b>	No information available.
<b>Aspiration Hazard</b>	May be harmful if swallowed and enters airways. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	2864 mg/kg
<b>ATEmix (dermal)</b>	6675 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	7.4 mg/L

#### Acute Toxicity

##### Component

Silica, crystalline

LD50 Oral: mg/kg (Rat) vendor data

Benzyl alcohol

LD50 Oral: 1230-1660 mg/kg (Rat)

LD50 Dermal: 2,000 mg/kg (Rabbit)

LC50 Inhalation (Vapor): > 5,000 mg/m<sup>3</sup> (Rat)Xylene

LD50 Oral: 4300 mg/kg (Rat)

LD50 Dermal: &gt; 1700 mg/kg (Rabbit)

LC50 Inhalation (Vapor): 5000 ppm (Rat, 4 hr.)

Propylene glycol monomethyl ether

LD50 Oral: 6,600 mg/kg (Rat)

LD50 Dermal: 13,000 mg/kg (Rabbit)

LC50 Inhalation (Vapor): 10,000 ppm (Rat)

Ethyl benzene

LD50 Oral: 3500 mg/kg (Rat)

LD50 Dermal: &gt; 5000 mg/kg (Rabbit)

LC50 Inhalation (Vapor): 55000 mg/m<sup>3</sup> (Rat, 2 hr.)Triethylenetetramine

LD50 Oral: 2500 mg/kg (Rat)

LD50 Dermal: 805 mg/kg (Rabbit)

Solvent naphtha, petroleum, light aromatic

LD50 Oral: 8400 mg/kg (Rat)

**Carcinogenicity***The information below indicates whether each agency has listed any ingredient as a carcinogen.*

Chemical Name	IARC	NTP	OSHA Carcinogen
Silica, crystalline	1 - Human Carcinogen	Known Human Carcinogen	Listed
Ethyl benzene	2B - Possible Human Carcinogen		Listed

• Crystalline Silica has been determined to be carcinogenic to humans by IARC (1) when in respirable form. Risk of cancer depends on duration and level of inhalation exposure to spray mist or dust from sanding the dried paint.

**Legend**

IARC - International Agency for Research on Cancer

NTP - National Toxicity Program

OSHA - Occupational Safety &amp; Health Administration

**12. ECOLOGICAL INFORMATION****Ecotoxicity Effects**

The environmental impact of this product has not been fully investigated.

**Product Information****Acute Toxicity to Fish**

No information available

**Acute Toxicity to Aquatic Invertebrates**

No information available

**Acute Toxicity to Aquatic Plants**

No information available

**Persistence / Degradability**

No information available.

**Bioaccumulation / Accumulation**

No information available.

**Mobility in Environmental Media**

No information available.

**Ozone**

Not Applicable

**Component****Acute Toxicity to Fish**Xylene

LC50: 13.5 mg/L (Rainbow Trout - 96 hr.)

Ethyl benzene

LC50: 12.1 mg/L (Fathead Minnow - 96 hr.)

**Acute Toxicity to Aquatic Invertebrates**Ethyl benzene

EC50: 1.8 mg/L (Daphnia magna - 48 hr.)

**Acute Toxicity to Aquatic Plants**Ethyl benzene

EC50: 4.6 mg/L (Green algae (Scenedesmus subspicatus), 72 hrs.)

**13. DISPOSAL CONSIDERATIONS****Waste Disposal Method**

Dispose of in accordance with federal, state, provincial, and local regulations. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

**Empty Container Warning**

Emptied containers may retain product residue. Follow label warnings even after container is emptied. Residual vapors may explode on ignition.

**14. TRANSPORT INFORMATION****DOT**

<b>Proper Shipping Name</b>	Paint (Mixture)
<b>Hazard Class</b>	3
<b>UN-No</b>	UN1263
<b>Packing Group</b>	III
<b>Reportable Quantity (RQ)</b>	Xylenes mixed isomers: RQ kg= 45.40, Ethylbenzene: RQ kg= 454.00
<b>Description</b>	UN1263,Paint (Mixture) ,3,,PG III UN1263, Paint, 3, III, RQ

**ICAO / IATA**

Contact the preparer for further information.

**IMDG / IMO**

Contact the preparer for further information.

**15. REGULATORY INFORMATION****International Inventories****DSL: Canada**

Yes - All components are listed or exempt.

**TSCA: United States**

Yes - All components are listed or exempt.

**Federal Regulations****SARA 311/312 hazardous categorization**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
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 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:

<u>Chemical Name</u>	<u>CAS-No</u>	<u>Weight % (max)</u>	<u>CERCLA/SARA 313 (de minimis concentration)</u>
Kaolin, calcined	66402-68-4	20	1.0
Xylene	1330-20-7	10	1.0
Ethyl benzene	100-41-4	5	0.1

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

<u>Chemical Name</u>	<u>CAS-No</u>	<u>Weight % (max)</u>	<u>Hazardous Air Pollutant (HAP)</u>
Xylene	1330-20-7	10	Listed
Ethyl benzene	100-41-4	5	Listed

**State Regulations****California Proposition 65**

*This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.*

**State Right-to-Know**

<u>Chemical Name</u>	<u>Massachusetts</u>	<u>New Jersey</u>	<u>Pennsylvania</u>
Kaolin, calcined		X	X
Silica, crystalline	X	X	X
Benzyl alcohol	X		X
Talc	X	X	X
Xylene	X	X	X
Propylene glycol monomethyl ether	X	X	X
Ethyl benzene	X	X	X
Triethylenetetramine	X	X	X

**Legend**

X - Listed

**16. OTHER INFORMATION**

**HMIS - Health: 1\* Flammability: 3 Reactivity: 0 PPE: -**

**HMIS Legend**

0 - Minimal Hazard

1 - Slight Hazard

- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard
- \* - Chronic Hazard

X - Consult your supervisor or S.O.P. for "Special" handling instructions.

*Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.*

*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, has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.*

**WARNING!** If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to [www.epa.gov/lead](http://www.epa.gov/lead).

**Prepared By** Product Stewardship Department  
Benjamin Moore & Co.  
101 Paragon Drive  
Montvale, NJ 07645  
855-724-6802

**Revision Date:** 17-Dec-2015  
**Revision Summary** Not available

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, provincial, and local laws and regulations.

**END OF SAFETY DATA SHEET**

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Methanol

**Other means of identification**

**Synonyms:** Methyl Alcohol

**Product No.:** 3042, 9124, 3292, 3290, 6290, 8820, 9424, 9423, 9098, 9097, 9077, 9076, 9073, 9070, 9069, 9067, 9066, 9063, 9049, 8888, 8818, 8814, 9093, 9065, V184, 3041, 3017, 3004, H603, H488, H080, 5842, 3016, 9863, 9830, 5595, 5370, 9263, 72690, 12210

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Details of the supplier of the safety data sheet**

**Manufacturer**

Company Name: Avantor Performance Materials, Inc.  
Address: 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034  
Telephone:  
Customer Service: 855-282-6867  
Fax:  
Contact Person: Environmental Health & Safety  
E-mail: info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard Classification**

**Physical Hazards**

Flammable liquids Category 2

**Health Hazards**

Acute toxicity (Oral) Category 3  
Acute toxicity (Dermal) Category 3  
Acute toxicity (Inhalation - vapor) Category 3  
Skin Corrosion/Irritation Category 2  
Serious Eye Damage/Eye Irritation Category 2A  
Toxic to reproduction Category 2  
Specific Target Organ Toxicity -  
Single Exposure Category 1

**Label Elements**

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** Toxic in contact with skin.  
Toxic if inhaled.  
Toxic if swallowed.  
Highly flammable liquid and vapor.  
Causes skin irritation.  
Causes serious eye irritation.  
Suspected of damaging fertility or the unborn child.  
Causes damage to organs.

**Precautionary Statement**

**Prevention:** Obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. 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. IF ON SKIN (or hair): 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 INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

**Storage:** Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** 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.

**3. Composition/information on ingredients**

**Substances**

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
METHYL ALCOHOL		67-56-1	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

<b>Ingestion:</b>	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.
<b>Inhalation:</b>	Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
<b>Skin Contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Toxic if inhaled. Toxic if swallowed. Toxic in contact with skin. Irritating to eyes, respiratory system and skin.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General Fire Hazards:** Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Specific hazards arising from the chemical:** Can be ignited easily and burns vigorously. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Static charges generated by emptying package in or near flammable vapor may cause flash fire.

**Special 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. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

**6. Accidental release measures**

<b>Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
<b>Methods and material for containment and cleaning up:</b>	Eliminate all ignition sources if safe to do so. Use only non-sparking tools. All equipment used when handling the product must be grounded. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
<b>Notification Procedures:</b>	Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.
<b>Environmental Precautions:</b>	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling:</b>	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 discharge. Use only non-sparking tools. Use personal protective equipment as required. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Keep container tightly closed in a cool, well-ventilated place. Store in a dry place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
METHYL ALCOHOL	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	325 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	260 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	260 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	260 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	325 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

#### Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
METHYL ALCOHOL (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (03 2013)

**Appropriate Engineering Controls** No data available.

**Individual protection measures, such as personal protective equipment**

**General information:** 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. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

**Eye/face protection:** Chemical goggles and face shield are recommended.

**Skin Protection**

**Hand Protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing and gloves.

**Respiratory Protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash contaminated clothing before reuse.

<b>9. Physical and chemical properties</b>
--

**Appearance**

**Physical state:** liquid

**Form:** liquid

**Color:** Colorless

**Odor:** Characteristic, Pungent

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/freezing point:** -97.8 °C

**Initial boiling point and boiling range:** 64 °C (101.3 kPa)

**Flash Point:** 11 - 12 °C (Closed Cup)

**Evaporation rate:** No data available.

**Flammability (solid, gas):** Class IB Flammable Liquid

**Upper/lower limit on flammability or explosive limits**

**Flammability limit - upper (%):** 36 %(V)

**Flammability limit - lower (%):** 6 %(V)

**Explosive limit - upper (%):** No data available.

**Explosive limit - lower (%):** No data available.

**Vapor pressure:** 16.9 kPa (25 °C)

**Vapor density:** 1.11 AIR=1

**Relative density:** 0.8 (20 °C)

**Solubility(ies)**

**Solubility in water:** 1,000 g/l Miscible with water.

**Solubility (other):** No data available.

**Partition coefficient (n-octanol/water):** -0.77

**Auto-ignition temperature:** 464 °C

**Decomposition temperature:** No data available.

**Viscosity:** No data available.

**Other information**

**Molecular weight:** 32.04 g/mol (CH4O)

**10. Stability and reactivity**

**Reactivity:** Contact with metals may evolve flammable hydrogen gas.

**Chemical Stability:** Material is stable under normal conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur.

**Conditions to Avoid:** Heat, sparks, flames. Sunlight.

**Incompatible Materials:** Oxidizing agents. Strong oxidizing agents. Acids.

**Hazardous Decomposition Products:** Thermal decomposition may release oxides of carbon. Formaldehyde. Toxic gas

**11. Toxicological information**

**Information on likely routes of exposure**

**Ingestion:** Toxic if swallowed.

**Inhalation:** Toxic by inhalation.

**Skin Contact:** Toxic in contact with skin.

**Eye contact:** Causes serious eye irritation.

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

**Oral**

**Product:** LD 50 (Rat): 5,628 mg/kg  
LD 50 (Mouse): 7,300 mg/kg  
LD 50 (Rabbit): 14,300 mg/kg

**Dermal**

**Product:** LD 50 (Rabbit): 15,800 mg/kg

**Inhalation**

**Product:** LC 50 (Rat, 1 h): > 145000 ppm  
LC 50 (Rat, 4 h): 64000 ppm

**Repeated dose toxicity**

**Product:** In serious cases absorption of methanol in the body may lead to damage to the eyesight.

**Skin Corrosion/Irritation**

**Product:** Causes skin irritation.

**Serious Eye Damage/Eye Irritation**

**Product:** Causes eye irritation.

**Respiratory or Skin Sensitization**

**Product:** Not a skin sensitizer.

**Carcinogenicity**

**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

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

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** Suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Central nervous system. Eyes.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** None known.

**Aspiration Hazard**

**Product:** No data available.

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): > 100 mg/l

**Aquatic Invertebrates**

**Product:** EC 50 (Water flea (*Daphnia magna*), 48 h): > 10,000 mg/l

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** Expected to be readily biodegradable.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

**Product:** May accumulate in soil and water systems.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: -0.77

**Mobility in Soil:** No data available.

**Other Adverse Effects:** The product components are 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.

**13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN Number: UN 1230  
 UN Proper Shipping Name: Methanol  
 Transport Hazard Class(es)  
   Class(es): 3  
   Label(s): 3  
 Packing Group: II  
 Marine Pollutant: Not a Marine Pollutant  
 Special precautions for user: -

**IMDG**

UN Number: UN 1230  
 UN Proper Shipping Name: METHANOL  
 Transport Hazard Class(es)  
   Class(es): 3, 6.1  
   Label(s): 3, 6.1  
   EmS No.: F-E, S-D  
 Packing Group: II  
 Marine Pollutant: Not a Marine Pollutant  
 Special precautions for user: -

**IATA**

UN Number: UN 1230  
 Proper Shipping Name: Methanol  
 Transport Hazard Class(es)  
   Class(es): 3, 6.1  
   Label(s): 3, 6.1  
 Marine Pollutant: Not a Marine Pollutant  
 Packing Group: II  
 Special precautions for user: -

**15. Regulatory information**

**US Federal Regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**  
 None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
METHYL ALCOHOL	5000 lbs.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  
Chronic (Delayed)  
Fire

**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
METHYL ALCOHOL	5000 lbs.

**SARA 311/312 Hazardous Chemical**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
METHYL ALCOHOL	10000 lbs

**SARA 313 (TRI Reporting)**

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
METHYL ALCOHOL	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**

METHYL ALCOHOL	Developmental toxin. WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
----------------	--

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

Chemical Identity  
METHYL ALCOHOL

**US. Massachusetts RTK - Substance List**

Chemical Identity  
METHYL ALCOHOL

**US. Pennsylvania RTK - Hazardous Substances**

Chemical Identity  
METHYL ALCOHOL

**US. Rhode Island RTK**

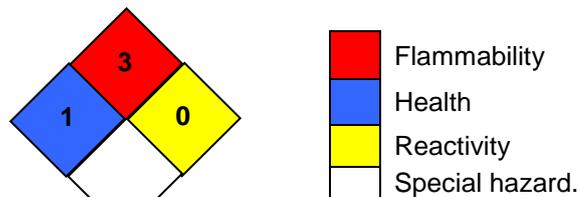
Chemical Identity  
METHYL ALCOHOL

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

<b>Issue Date:</b>	04-02-2015
<b>Revision Date:</b>	No data available.
<b>Version #:</b>	1.3
<b>Further Information:</b>	No data available.

**Disclaimer:**

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# Safety Data Sheet

Version 1.12  
Revision Date 01/26/2015

SDS Number 300000000110  
Print Date 03/24/2015

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Oxygen

Chemical formula : O<sub>2</sub>

Synonyms : Oxygen, Oxygen gas, Gaseous Oxygen, GOX

Product Use Description : General Industrial

Manufacturer/Importer/Distributor : Air Products and Chemicals, Inc  
7201 Hamilton Blvd.  
Allentown, PA 18195-1501  
GST No. 123600835 RT0001  
QST No. 102753981 TQ0001

Telephone : 1-610-481-4911 Corporate  
1-800-345-3148 Chemicals Cust Serv  
1-800-752-1597 Gases/Electronics Cust Serv

Emergency telephone number (24h) : 800-523-9374 USA  
+1 610 481 7711 International

## 2. HAZARDS IDENTIFICATION

### GHS classification

Oxidizing gases - Category 1  
Gases under pressure - Compressed gas.

### GHS label elements

#### Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

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H270:May cause or intensify fire; oxidiser.

H280:Contains gas under pressure; may explode if heated.

## Precautionary Statements:

- Prevention : P220:Keep away from clothing and other combustible materials.  
P244:Keep valves and fittings free from oil and grease.
- Response : P370+P376 :In case of fire: Stop leak if safe to do so.
- Storage : P410+P403:Protect from sunlight. Store in a well-ventilated place.

## Hazards not otherwise classified

- High pressure, oxidizing gas.  
Vigorously accelerates combustion.  
Keep oil, grease, and combustibles away.  
May react violently with combustible materials.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Volume)
Oxygen	7782-44-7	100 %

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

## 4. FIRST AID MEASURES

- General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Eye contact : Seek medical advice.
- Skin contact : Seek medical advice.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Inhalation : Consult a physician after significant exposure. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- Most important symptoms/effects - acute and delayed : If oxygen is administered to persons with chronic obstructive pulmonary disease, raising the oxygen concentration in the blood depresses their breathing and raises their retained carbon dioxide to a dangerous level.

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## 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : All known extinguishing media can be used.
- Specific hazards : Most cylinders are designed to vent contents when exposed to elevated temperatures.
- Further information : Some materials that are noncombustible in air will burn in the presence of an oxygen enriched atmosphere (greater than 23.5%). Fire resistant clothing may burn and offer no protection in oxygen rich atmospheres.

---

## 6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions, Protective Equipment, and Emergency Procedures : Clothing exposed to high concentrations may retain oxygen 30 minutes or longer and become a potential fire hazard. Stay away from ignition sources. Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ventilate the area.
- Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up : Ventilate the area.
- Additional advice : If possible, stop flow of product. Increase ventilation to the release area and monitor concentrations. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

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## 7. HANDLING AND STORAGE

### Handling

All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service. Oxygen is not to be used as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Only experienced and properly instructed persons should handle compressed gases/cryogenic liquids. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with

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lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never permit oil, grease, or other readily combustible substances to come into contact with valves or containers containing oxygen or other oxidants. Do not use rapidly opening valves (e.g. ball valves). Open valve slowly to avoid pressure shock. Never pressurize the entire system at once. Use only with equipment cleaned for oxygen service and rated for cylinder pressure. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F).

## Storage

Open/close valve slowly. Close when not in use. Wear Safety Eye Protection. Check Safety Data Sheet before use. Do not change or force fit connections. Always keep container in upright position. Use a back flow preventative device in the piping. Use only with equipment cleaned for oxygen service and rated for cylinder pressure. Use only with equipment of compatible materials of construction, rated for cylinder pressure. Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Full containers should be stored so that oldest stock is used first. Stored containers should be periodically checked for general condition and leakage. Observe all regulations and local requirements regarding storage of containers. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Display "No Smoking or Open Flames" signs in the storage areas. Return empty containers in a timely manner. Flammable storage areas should be separated from oxygen and other oxidizers by a minimum distance of 20 ft. (6.1 m.) or by a barrier of non-combustible material at least 5 ft. (1.5 m.) high, having a fire resistance rating of at least 1/2 hour.

## Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering measures

Ensure adequate ventilation.

### Personal protective equipment

Respiratory protection : Users of breathing apparatus must be trained.

Hand protection : Wear working gloves when handling gas containers.

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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 glasses recommended when handling cylinders.
- Skin and body protection : Safety shoes are recommended when handling cylinders.
- Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas. Gloves must be clean and free of oil and grease.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Compressed gas. Colorless gas
- Odor : No odor warning properties.
- Odor threshold : No data available.
- pH : Not applicable.
- Melting point/range : -362 °F (-219 °C)
- Boiling point/range : -297 °F (-183 °C)
- Flash point : Not applicable.
- Evaporation rate : Not applicable.
- Flammability (solid, gas) : Refer to product classification in Section 2
- Upper/lower explosion/flammability limit : No data available.
- Vapor pressure : Not applicable.
- Water solubility : 0.039 g/l
- Relative vapor density : 1.1 (air = 1)
- Relative density : 1.1 (water = 1)
- Partition coefficient (n-octanol/water) : Not applicable.
- Auto-ignition temperature : No data available.

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Decomposition temperature	: No data available.
Viscosity	: Not applicable.
Molecular Weight	: 32 g/mol
Density	: 0.081 lb/ft <sup>3</sup> (0.0013 g/cm <sup>3</sup> ) at 70 °F (21 °C) Note: (as vapor)
Specific Volume	: 12.08 ft <sup>3</sup> /lb (0.7540 m <sup>3</sup> /kg) at 70 °F (21 °C)

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## 10. STABILITY AND REACTIVITY

Chemical Stability	: Stable under normal conditions.
Conditions to avoid	: No data available.
Materials to avoid	: Flammable materials. Organic materials. Avoid oil, grease and all other combustible materials.
Hazardous decomposition products	: No data available.
Possibility of hazardous Reactions/Reactivity	: No data available.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Likely routes of exposure

Effects on Eye	: No adverse effect.
Effects on Skin	: No adverse effect.
Inhalation Effects	: Breathing 75% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects.
Ingestion Effects	: Ingestion is not considered a potential route of exposure.
Symptoms	: No data available.

#### Acute toxicity

Acute Oral Toxicity	: No data is available on the product itself.
Inhalation	: No data is available on the product itself.

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Acute Dermal Toxicity : No data is available on the product itself.

Skin corrosion/irritation : No data available.

Serious eye damage/eye irritation : No data available.

Sensitization. : No data available.

## Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No data is available on the product itself.

Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : No data available.

Aspiration hazard : No data available.

## Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

If oxygen is administered to persons with chronic obstructive pulmonary disease, raising the oxygen concentration in the blood depresses their breathing and raises their retained carbon dioxide to a dangerous level.

Premature infants exposed to high oxygen concentrations may suffer delayed retinal damage that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hr). At two or more atmospheres central nervous system (CNS) toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours and at six atmospheres in only a few minutes.

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data available.

### Persistence and degradability

Biodegradability : No data is available on the product itself.

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Mobility : No data available.

Bioaccumulation : No data is available on the product itself.

## Further information

No ecological damage caused by this product.

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## 13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products : Return unused product in original cylinder to supplier. Contact supplier if guidance is required.

Contaminated packaging : Return cylinder to supplier.

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## 14. TRANSPORT INFORMATION

### DOT

UN/ID No. : UN1072  
Proper shipping name : Oxygen, compressed  
Class or Division : 2.2  
Label(s) : 2.2 (5.1)  
Marine Pollutant : No

### IATA

UN/ID No. : UN1072  
Proper shipping name : Oxygen, compressed  
Class or Division : 2.2  
Label(s) : 2.2 (5.1)  
Marine Pollutant : No

### IMDG

UN/ID No. : UN1072  
Proper shipping name : OXYGEN, COMPRESSED  
Class or Division : 2.2  
Label(s) : 2.2 (5.1)  
Marine Pollutant : No

### TDG

UN/ID No. : UN1072  
Proper shipping name : OXYGEN, COMPRESSED  
Class or Division : 2.2  
Label(s) : 2.2 (5.1)  
Marine Pollutant : No

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## Further Information

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. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an Air Products customer service representative.

## 15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):

None.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.
Japan	ENCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification

Fire Hazard. Sudden Release of Pressure Hazard.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

## 16. OTHER INFORMATION

### NFPA Rating

Health : 0  
Fire : 0  
Instability : 0  
Special : OX

### HMIS Rating

Health : 0  
Flammability : 0  
Physical hazard : 3

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

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Telephone : 1-610-481-4911 Corporate  
1-800-345-3148 Chemicals Cust Serv  
1-800-752-1597 Gases/Electronics Cust Serv

Preparation Date : 03/24/2015

For additional information, please visit our Product Stewardship web site at  
<http://www.airproducts.com/productstewardship/>

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## M A T E R I A L   S A F E T Y   D A T A   S H E E T

PRODUCT NAME: PAINT THINNER  
 PRODUCT CODE: 79

HMIS CODES: H F R P  
 2\*2 0

## ===== SECTION I - MANUFACTURER IDENTIFICATION =====

MANUFACTURER'S NAME: ELLIS PAINT CO.  
 ADDRESS : 3150 E. PICO BOULEVARD  
 LOS ANGELES, CA 90023-3683  
 EMERGENCY PHONE(CHEMTREC) : (800) 424-9300      DATE PRINTED : 5/27/2008  
 INFORMATION PHONE : (323) 261-8114      NAME OF PREPARER :

## ===== SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION =====

REPORTABLE COMPONENTS	CAS NUMBER	VAPOR PRESSURE mmHG @TEMP(F)
MINERAL SPIRITS, MED.ALIPHATIC SOLV NAPHTHA OSHA PEL: 100 ppm, ACGIH TLV: 100 ppm	64742-88-7	1.1      68

~Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

## ===== SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS =====

BOILING RANGE (Deg F): 330      DENSITY: 6.52 lb/gl  
 VAPOR DENSITY: HEAVIER THAN AIR      SPECIFIC GRAVITY (H2O=1): .78  
 MATERIAL V.O.C.: 6.52 lb/gl      MATERIAL V.O.C.: 781 g/l  
 SOLUBILITY IN WATER:      EVAPORATION RATE: SLOWER THAN ETHER  
 V.O.C. COMPOSITE VAPOR PRESSURE: 1.1 mmHg @ 68 Deg F  
 APPEARANCE AND ODOR: Water-white liquid with mild odor.

## ===== SECTION IV - FIRE AND EXPLOSION HAZARD DATA =====

FLASH POINT(Deg F): 112      METHOD USED: TCC  
 FLAMMABLE LIMITS IN AIR BY % VOLUME- LOWER: 1      UPPER: 6  
 EXTINGUISHING MEDIA: ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG  
 SPECIAL FIREFIGHTING PROCEDURES

## UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire-exposed containers should be cooled with water to prevent pressure build-up which could result in container rupture.

## ===== SECTION V - REACTIVITY DATA =====

STABILITY: STABLE

## CONDITIONS TO AVOID

Avoid heat, sparks and open flame

## INCOMPATIBILITY (MATERIALS TO AVOID)

Strong oxidizing agents

## HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Thermal decomposition may yield carbon dioxide and/or carbon monoxide.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

## ===== SECTION VI - HEALTH HAZARD DATA =====

## INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

Inhalation: May cause CNS depression.

## SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

Skin and eye contact: May cause irritation to both.

## SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

Skin absorption: May cause irritation.

## INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

Ingestion: May cause CNS depression.

## HEALTH HAZARDS (ACUTE AND CHRONIC)

Acute: May cause irritation to nose, eyes and skin. May also cause CNS (central nervous system) depression which may be evidenced by giddiness, headache, dizziness and nausea; in extreme cases, unconsciousness and death may occur. Chronic: Prolonged or repeated contact may result in dermatitis and damage to central nervous system, liver and kidneys.

CARCINOGENICITY: NTP CARCINOGEN: No IARC MONOGRAPHS: No OSHA REGULATED: No

## MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Pre-existing eye, skin and respiratory disorders may be aggravated.

## EMERGENCY AND FIRST AID PROCEDURES

INHALATION: REMOVE TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. SPLASH (EYES): FLUSH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. SPLASH (SKIN): WASH AFFECTED AREAS WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. INGESTION: DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION IMMEDIATELY.

## ===== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE =====

## STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

REMOVE ALL SOURCES OF IGNITION AND PROVIDE VENTILATION. LARGE SPILLS MAY BE PUMPED TO SALVAGE VESSELS. SMALL SPILLS MAY BE PICKED UP WITH AN ABSORBENT

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**MATERIAL.****WASTE DISPOSAL METHOD**

Place in tightly closed containers and dispose of in accordance with local, state and federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Keep away from heat, sparks and open flames. Keep containers closed when not in use. Use with adequate ventilation.

**OTHER PRECAUTIONS**

Do not take internally. Ground equipment to prevent accumulation of static charge. Do not cut, weld, drill or grind on or near containers.

=====  
**SECTION VIII - CONTROL MEASURES**  
=====**RESPIRATORY PROTECTION**

Use self-contained breathing apparatus where vapor concentration may be above TLV limits. Where vapor does not exceed TLV limits, use NIOSH/MSHA approved respirator.

**VENTILATION**

Use explosion-proof ventilation as required to control vapor concentrations.

**PROTECTIVE GLOVES**

Chemical resistant gloves

**EYE PROTECTION**

Safety glasses, splash goggles or face shield. Contact lenses should not be worn.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT**

Safety showers and eyewash stations should be provided.

**WORK/HYGIENIC PRACTICES**

Wash hands thoroughly before eating or using the washroom. Smoke in smoking areas only.

=====  
**SECTION IX - REGULATORY INFORMATION**  
=====**CALIFORNIA PROPOSITION 65**

None

=====  
**SECTION X - DISCLAIMER**  
=====

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The information contained herein is based on the data available to us and is believed to be correct. However, Ellis Paint Co. makes no warranty expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ellis Paint Co. assumes no responsibility for injury from the use of the product described herein.

## MATERIAL SAFETY DATA SHEET

### SECTION 1: IDENTIFICATION

**Product identifier** : **PUNCTURE SEAL NON-FLAMMABLE**

**Product Use** : Tire sealant

**Chemical Family** : Mixture.

**Manufacturer part no.** : M1115C, M1120C, M1128C, M1120/12C

**Supplier's name and address:**  
**Radiator Specialty Co., of Canada**  
 1711 Aimco Blvd.  
 Mississauga, ON, Canada  
 L4W 1H7

**Manufacturer's name and address:**  
 Refer to Supplier

**Information Telephone #** : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)

**24 Hr. Emergency Tel #** : 613-996-6666 (CANUTEC)

### SECTION 2 - HAZARDS IDENTIFICATION

**Classification** : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).

WHMIS classification:

- Class A (Pressurized containers);
- Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);
- Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
- Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:



**Emergency Overview** : Liquid aerosol. Milky, white liquid. Ammonia odour.  
 DANGER! Contents under pressure. Containers may explode if heated.  
 POISON! May be fatal if inhaled. Harmful or fatal if swallowed or absorbed through the skin. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Causes skin irritation. Could cause eye damage. Can cause kidney damage. Prolonged or repeated overexposure could cause adverse liver effects. Contains material which may cause adverse blood system effects. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

### POTENTIAL HEALTH EFFECTS:

#### Signs and symptoms of short-term (acute) exposure

*Inhalation* : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Inhalation in very high concentrations may result in blood system effects, such as red blood cell fragility. May result in unconsciousness and possibly death. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

*Skin* : May cause moderate to severe skin irritation. May be absorbed and cause symptoms similar to those for inhalation. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, pricking and itching.

*Eyes* : Direct eye contact may produce severe irritation with possible eye damage. If product is sprayed directly into the eyes, could cause freezing of the eye.

**Ingestion** : May cause severe irritation to the mouth, throat and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could cause cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood). May potentially result in lethal kidney damage. Could also cause convulsions, coma, respiratory arrest and death.

**Effects of long-term (chronic) exposure**

: Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

**Carcinogenic status** : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

**Additional health hazards** : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

**Potential environmental effects**

: See ECOLOGICAL INFORMATION, Section 12.

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<b>Ingredients</b>	<b>CAS #</b>	<b>Wt.%</b>
1,1,1,2-Tetrafluoroethane	811-97-2	15.00 - 40.00
2-butoxyethanol	111-76-2	10.00 - 30.00
Ethylene glycol	107-21-1	3.00 - 7.00
Ammonium hydroxide	1336-21-6	0.10 - 1.00

### SECTION 4 - FIRST AID MEASURES

**Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

**Skin contact** : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. Seek immediate medical attention/advice.

**Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention/advice.

**Ingestion** : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Notes For Physician** : Treat symptomatically.

### SECTION 5 - FIRE FIGHTING MEASURES

**Fire hazards/conditions of flammability**

: Not flammable under normal conditions of use. Non-flammable aerosol. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Vapours are heavier than air and collect in confined and low-lying areas.

**Oxidizing properties** : None known.

**Explosion data: Sensitivity to mechanical impact / static discharge**

: Not expected to be sensitive to mechanical impact or static discharge.

**Suitable extinguishing media** : Dry chemical, foam, carbon dioxide and water fog.

**Special fire-fighting procedures/equipment**

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

**Hazardous combustion products**

: Carbon oxides; Hydrogen fluoride; Ammonia; formaldehyde; Nitrogen oxides (NOx); Halogenated compounds; Other unidentified organic compounds.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions** : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.

- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.
- Spill response/cleanup** : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.
- Prohibited materials** : Do not use combustible absorbents, such as sawdust.

**SECTION 7 - HANDLING AND STORAGE**

- Safe Handling procedures** : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Keep out of the reach of children.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep containers tightly closed when not in use. Inspect periodically for damage or leaks.
- Incompatible materials** : Oxidizing agents; Bases; Acids; Reactive metals.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

**SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION**

<u>Exposure Limits</u>				
<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
1,1,1,2-Tetrafluoroethane	N/Av	N/Av	N/Av	N/Av
2-butoxyethanol	20 ppm	N/Av	50 ppm (Skin)	N/Av
Ethylene glycol	100 mg/m <sup>3</sup> (aerosol) (Ceiling)	N/Av	50 ppm (Ceiling) (final rule limit)	N/Av
Ammonium hydroxide	25 ppm (Ammonia)	35 ppm (Ammonia)	50 ppm (Ammonia)	N/Av

- Ventilation and engineering measures** : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.
- Respiratory protection** : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.
- Skin protection** : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.
- Eye / face protection** : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.
- Other protective equipment** : An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene considerations** : Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

- Physical state** : Liquid aerosol. **Appearance** : Milky, white liquid.
- Odour** : Ammonia odour. **Odour threshold** : N/Av
- pH** : 11 ± 0.5
- Boiling point** : 100°C **Specific gravity** : 1.0
- Melting/Freezing point** : N/Av **Coefficient of water/oil distribution** : N/Av
- Vapour pressure (mmHg @ 20° C / 68° F)** : N/Av **Solubility in water** : soluble
- Vapour density (Air = 1)** : > 1 **Evaporation rate (n-Butyl acetate = 1)** : 0.2

<b>Volatile organic Compounds (VOC's)</b>	: N/Av	<b>Volatiles (% by weight)</b>	: 15.64%
<b>Flash point</b>	: N/Av		
<b>Flash point Method</b>	: N/Av	<b>Auto-ignition temperature</b>	: N/Av
<b>Lower flammable limit (% by vol.)</b>	: N/Av	<b>Upper flammable limit (% by vol.)</b>	: N/Av
<b>Flame Projection Length</b>	: N/Av	<b>Flashback observed</b>	: N/Av
<b>Absolute pressure of container</b>	: N/Av	<b>Viscosity</b>	: N/Av
<b>General Information</b>	: No additional information.		

**Section 10: STABILITY AND REACTIVITY**

<b>Stability and reactivity</b>	: Stable under the recommended storage and handling conditions prescribed.
<b>Hazardous polymerization</b>	: Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	: Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
<b>Materials To Avoid And Incompatibility</b>	: Oxidizing agents; Bases; Acids; Reactive metals.
<b>Hazardous decomposition products</b>	: None known, refer to hazardous combustion products in Section 5.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

<b>Target organs</b>	: Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys.
<b>Routes of exposure</b>	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : YES <i>Skin &amp; Eyes</i> : YES <i>Ingestion</i> : YES
<b>Irritancy</b>	: Moderate to severe skin irritant. Possible severe eye irritation and tissue damage.
<b>Toxicological data</b>	: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
1,1,1,2-Tetrafluoroethane	1500 g/m3	N/Av (gas)	N/Av (gas)
2-butoxyethanol	450 ppm (2.175 mg/L)	530 mg/kg	400 - 500 mg/kg
Ethylene glycol	N/Av	4000 mg/kg	9530 µL/kg
Ammonium hydroxide	3670 ppm (rat); 2115 ppm (mouse)	350 mg/kg	N/Av

<b>Carcinogenic status</b>	: This product contains 2-Butoxyethanol, an ACGIH Group A3 carcinogen. No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.
<b>Reproductive effects</b>	: Not expected to have other reproductive effects.
<b>Teratogenicity</b>	: May cause birth defects. Contains ethylene glycol, which may cause teratogenic effects at doses which are not maternally toxic, based on animal data.
<b>Mutagenicity</b>	: Not expected to be mutagenic in humans.
<b>Epidemiology</b>	: None known or reported by the manufacturer.
<b>Sensitization to material</b>	: Not expected to be a skin or respiratory sensitizer.
<b>Synergistic materials</b>	: None known or reported by the manufacturer.
<b>other important hazards</b>	: None known or reported by the manufacturer.
<b>Conditions aggravated by overexposure</b>	: Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.

**SECTION 12 - ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	: The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data. Note: Contains: Ammonium hydroxide . Toxicity is primarily associated with pH.
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**Ecotoxicity data:**

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	1490 mg/L (Bluegill sunfish)	> 100 mg/L (zebra fish)	None.
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout)	N/Av	None.
Ammonium hydroxide	1336-21-6	8.2 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	835 mg/L [Daphnia magna (Water flea)]	100 mg/L	None.
Ethylene glycol	107-21-1	46 300 mg/L [Daphnia magna (Water flea)]	N/Av	None.
Ammonium hydroxide	1336-21-6	0.66 mg/L [Daphnia magna (Water flea)]	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
1,1,1,2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap
2-butoxyethanol	111-76-2	911 mg/L/72hr (Green algae)	286 mg/L/72hr	None.
Ethylene glycol	107-21-1	10 940 mg/L/96hr (Green algae)	N/Av	None.
Ammonium hydroxide	1336-21-6	N/Av	N/Av	None.

- Mobility** : No data is available on the product itself.
- Persistence** : No data is available on the product itself.
- Bioaccumulation potential** : No data is available on the product itself.
- Other Adverse Environmental effects** : No data is available on the product itself.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

- Handling for Disposal** : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.
- Methods of Disposal** : Dispose of in accordance with federal, provincial and local hazardous waste laws.

**SECTION 14: TRANSPORT INFORMATION**

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.2	none	
<b>TDG Additional information</b>	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

**SECTION 15 - REGULATORY INFORMATION****Labelling:**

Danger. Contents under pressure. Container may explode if heated. POISON! May be fatal if inhaled. Harmful or fatal if swallowed or absorbed through the skin. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Causes skin irritation. Possible severe eye irritation and tissue damage. Can cause kidney damage. Prolonged or repeated overexposure could cause adverse liver effects. Contains material which may cause adverse blood system effects. Contains material which may cause cancer, based on animal data. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Do not puncture or incinerate containers. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stopped, begin artificial respiration. If breathing stopped, begin artificial respiration. For skin contact, immediately remove contaminated clothing then wash thoroughly with soap and water for at least 15 minutes. For eye contact, flush with running water for at least 15 minutes. If ingested, do not induce vomiting. Never give anything by mouth to an unconscious person. For all cases, obtain medical attention immediately.

Refer To Material Safety Data Sheet for further information.

**Canadian Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian WHMIS Classification: Refer to Section 2 for a WHMIS Classification for this product.

**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.**

**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

**SECTION 16 - OTHER INFORMATION**

**Legend** : ACGIH: American Conference of Governmental Industrial Hygienists  
 CAS: Chemical Abstract Services  
 HSDB: Hazardous Substances Data Bank  
 IARC: International Agency for Research on Cancer  
 Inh: Inhalation  
 LC: Lethal Concentration  
 LD: Lethal Dose  
 MSHA: Mine Safety and Health Administration  
 N/Ap: Not Applicable  
 N/Av: Not Available  
 NIOSH: National Institute of Occupational Safety and Health  
 NOEC: No observable effect concentration  
 NTP: National Toxicology Program  
 OECD: Organisation for Economic Co-operation and Development  
 OSHA: Occupational Safety and Health Administration  
 PEL: Permissible exposure limit  
 RTECS: Registry of Toxic Effects of Chemical Substances  
 STEL: Short Term Exposure Limit  
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
 TLV: Threshold Limit Values  
 TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2013.
  2. International Agency for Research on Cancer Monographs, searched 2013.
  3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2013 (Chempendium, HSDB and RTECs).
  4. Material Safety Data Sheets from manufacturer.
  5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2013.

<p><b>Prepared for:</b>  Radiator Specialty Co. of Canada  1711 Aimco Blvd.  Mississauga, ON, Canada, L4W 1H7  Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM)  Please direct all enquiries to Radiator Specialty.</p>	
<p><b>Prepared by:</b>  ICC The Compliance Center Inc.  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

**DISCLAIMER OF LIABILITY**

This Material Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Radiator Specialty Co. of Canada and CCOHS' Web Information Service. The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Radiator Specialty Co. of Canada 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 MSDS does not apply to use with any other product or in any other process.

This Material 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 Radiator Specialty Co. of Canada.

**MSDS Preparation Date (mm/dd/yyyy)** : 05/07/2007

**MSDS Revision Date (mm/dd/yyyy)** : 06/21/2013

**Revision No.** : 3

**Revision Information** : (M)SDS sections updated:  
2. HAZARDS IDENTIFICATION (Eye irritation);  
7. HANDLING AND STORAGE (Incompatible materials);  
10. STABILITY AND REACTIVITY (Incompatible materials);  
12. ECOLOGICAL INFORMATION (Ecotoxicity).

**END OF DOCUMENT**

# Material Safety Data Sheet

24 Hour Assistance:

1-847-367-7700

Rust-Oleum Corp.

www.rustoleum.com



## 1. Identification

**Product Name:** PTOUCH +SSPR 6PK GLOSS NAVY BLUE 12 OZ  
**Revision Date:** 6/2/2014

**Product Number:** 1922830

**Product Use/Class:** Topcoat/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

**Prepared by:** Regulatory Department

## 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.

**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:** 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). 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

## 3. Composition/Information On Ingredients

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV- TWA	ACGIH TLV- STEL	OSHA PEL-TWA	OSHA PEL- CEILING
Acetone	67-64-1	35.0	500 ppm	750 ppm	1000 ppm	N.E.
Liquefied Petroleum Gas	68476-86-8	30.0	N.E.	N.E.	N.E.	N.E.

Naphtha, Petroleum, Hydrotreated Light	64742-49-0	10.0	200 mg/m3	N.E.	N.E.	N.E.
Xylene	1330-20-7	10.0	100 ppm	150 ppm	100 ppm	N.E.
Barium Sulfate	7727-43-7	5.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.
Solvent Naptha, Light Aromatic	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	125 ppm	100 ppm	N.E.
1,2,4-Trimethylbenzene	95-63-6	5.0	25 ppm	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	1.0	10 mg/m3	N.E.	15 mg/m3 [Total Dust]	N.E.

#### 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

**Flash Point, °F** -156 (Calculated)

**Extinguishing Media:** Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, 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

**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

<b>Vapor Density</b>	Heavier than Air	<b>Odor:</b>	Solvent Like
<b>Appearance:</b>	Aerosolized Mist	<b>Evaporation Rate:</b>	Faster than Ether
<b>Solubility in Water:</b>	Slight	<b>Freeze Point:</b>	N.D.
<b>Specific Gravity:</b>	0.752	<b>pH:</b>	N.D.
<b>Physical State:</b>	Liquid		

(See section 16 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

<u>Chemical Name</u>	<u>LD50</u>	<u>LC50</u>
Acetone	5800 mg/kg (Rat)	50100 mg/m <sup>3</sup> (Rat, 8Hr)
Liquefied Petroleum Gas	N.E.	N.E.
Naphtha, Petroleum, Hydrotreated Light	N.E.	N.E.
Xylene	4300 mg/kg (Rat, Oral)	5000 ppm (Rat, Inhalation, 4Hr)
Barium Sulfate	N.E.	N.E.
Solvent Naptha, Light Aromatic	4700 mg/kg (Rat, Oral)	3670 mg/kg (Rat, Inhalation)
Ethylbenzene	3500 mg/kg (Rat, Oral)	N.E.
1,2,4-Trimethylbenzene	N.E.	18000 mg/m <sup>3</sup> (Rat, 4Hr)
Titanium Dioxide	>7500 mg/kg (Rat, Oral)	N.E.

## 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

	<u>Domestic (USDOT)</u>	<u>International (IMDG)</u>	<u>Air (IATA)</u>	<u>TDG (Canada)</u>
<b>UN Number:</b>	N.A.	1950	1950	N.A.
<b>Proper Shipping Name:</b>	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
<b>Hazard Class:</b>	N.A.	2.1	2.1	N.A.
<b>Packing Group:</b>	N.A.	N.A.	N.A.	N.A.
<b>Limited Quantity:</b>	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:

<u>Chemical Name</u>	<u>CAS-No.</u>
Xylene	1330-20-7
Ethylbenzene	100-41-4
1,2,4-Trimethylbenzene	95-63-6

#### 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.

### International Regulations:

#### 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

**16. Other Information****HMS Ratings:**

**Health:** 2\*    **Flammability:** 4    **Physical Hazard:** 0    **Personal Protection:** X

**NFPA Ratings:**

**Health:** 2    **Flammability:** 4    **Instability:** 0

**VOLATILE ORGANIC COMPOUNDS, g/L:** 510

**REASON FOR REVISION:** Regulatory Update

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.

# PETRO EXPLO INC.

Safety Data Sheet

Date: 6/5/2015

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SECTION 1- IDENTIFICATION	
PRODUCT NAME:	Cobra Safety Fuse- Orange
RECOMMENDED USES:	Ignition Source
*****EMERGENCY RESPONSE CHEMTEL 800-255-3924 CONTRACT MIS0003458	
MANUFACTURER:	Compania Mexicana De Mecha Para Mines Zacatecas #120Ote., Colonia "Las Roses" Gomez Palacio, Durango, Mexico
Non-Emergency or for more information 817-478-8888	

SECTION 2- HAZARDS IDENTIFICATION	
GHS CLASSIFICATION: EXPLOSIVES	
SIGNAL WORD: WARNING FIRE OR PROJECTION HAZARD	
PICTOGRAM:	
	
PRECAUTIONARY STATEMENTS:	
P210: KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. NO SMOKING	
P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT	
P250: DO NOT SUBJECT TO GRINDING/SHOCK/FRICTION	
P280: WEAR FACE PROTECTION	

SECTION 3- COMPOSTION/INFORMATION ON INGREDIENTS		
CHEMICAL OR TRADE NAME	CHEMICAL FORMULA	CAS NUMBER
Potassium Nitrate	KNO3	007757-79-01
Sulphur	S	007704-34-9
Charcoal		016291-96-6
***EXPLOSIVE CONTENT IS A SPECIAL MIXTURE IN A PLASTIC COVER***		

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<b>SECTION 4- FIRST AID MEASURES</b>	
<b>EMERGENCY AND FIRST AID PROCEDURES:</b>	
<b>EYES- WEAR FACE PROTECTION- IF INJURY OCCURS SEEK EMERGENCY MEDICAL ATTENTION</b>	
<b>SKIN- WEAR PROTECTIVE GLOVES/CLOTHING. IF INJURY OCCURS SEEK EMERGENCY MEDICAL ATTENTION</b>	
<b>INHALATION- MOVE VICTIM TO FRESH AIR. SEEK EMERGENCY MEDICAL ATTENTION</b>	
<b>INGESTION- SEEK EMERGENCY MEDICAL ATTENTION</b>	

<b>SECTION 5- FIRE FIGHTING MEASURES</b>	
<b>EXTINGUISHING MEDIA:</b>	Water sprinkler/deluge system recommended
	In case of fire, evacuate area
	Explosion Risk
	<b>DO NOT</b> fight fire when fire reaches explosives
<b>FIRE FIGHTING PROCEDURES</b>	Do not attempt to manually extinguish fires. Burning explosives may accelerate to a detonation at any time when subjected to confinement, shock, or other sufficient initiation source.
<b>SPECIAL HAZARDS CAUSED BY THE SUBSTANCE, ITS BURNING RESIDUES OR RESULTING GASES</b>	In case of fire hazard or explosion. In any case it has to be prevented that the fire catches the product. No trials to extinguish when the fire has caught the product, look for safe shelter, approximately 1000 feet.

<b>SECTION 6- ACCIDENTAL RELEASE MEASURES</b>	
Personal precautions, Protective equipment, and Emergency procedures:	Removal of ignition sources. Do not eat, drink, smoke when working. Avoid contact with eyes. Keep unauthorized persons away.
Environmental precautions:	Do not let into sewerages or waters. After penetration of waters, immediately notify authorities.
Procedures for cleaning/picking up	Pick up by hand or other non-sparking tools and put into clean and marked containers which can be covered. Avoid impact and friction. Do not use sparking tools. After all is picked up, drown area with water. In case of rain, cover the product with a tarpaulin.

<b>SECTION 7- HANDLING AND STORAGE</b>	
Handling	Protect from fire. Open and handle containers with care. Keep away ignition sources. Do not smoke. Avoid impact and friction.
Storage	Store in a cool dry place in original packaging. Store in accordance to all state and national regulations.
<b>STORE ONLY IN APPROVED MAGAZINES, IN ORIGINAL PACKAGING. STORAGE AND HANDLING MUST BE CARRIED OUT WITH ONLY TRAINED PERSONNEL ACCORDING TO SAFETY AGENCY REGULATIONS.</b>	

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## SECTION 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS:	Contains no substances with threshold limit value	
ENGINEERING MEASURES	Install efficient earthing at working place. Do not use sparking tools	
HYGIENE MEASURES	Keep away from foodstuff, beverages, and feedstuff. Avoid contact with eyes. Wash hands before breaks, and when finished.	
INDIVIDUAL PROTECTION MEASURES	Breathe Protection	In case of dust, dust mask
	Hand Protection	Not needed if handled properly
	Eye Protection	Not needed if handled properly
	Body Protection	Not needed if handled properly

## SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	N/A	Specific Gravity (H <sub>2</sub> O=1)	1.7
Vapor Pressure (mm Hg)	N/A	Melting Point	200°C
Vapor Density (Air=1)	N/A	Evaporation Rate	N/A
Solubility in Water	N/A		
Appearance and Odor: Orange Plastic over asphalt and black powder with 2 guide wires. Odorless.			

## SECTION 10- STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions
Conditions to Avoid	Keep away from any heat source. Avoid sparks, flames, friction, or impact. Do not remove any material from inside case/cover
Incompatible Materials	Volatile or corrosive chemicals, fuels, acids, and bases.
Hazardous Decomposition	None as long as the recommended handling, transport, storage & use are met, In the event of fire, the produced gases may include lead compounds, carbon monoxide, and nitrogen oxides.
Risk of Hazardous Reactions	No risk of spontaneous reactions.

## SECTION 11- TOXICOLOGICAL INFORMATION

<b>Overexposure Effects-</b> The produced gases may include lead compounds, carbon monoxide and nitrogen oxides, which may be toxic.	
<b>Inhalation</b>	None under normal conditions. If gases are inhaled, overexposure may cause nausea, headaches, and possibly unconsciousness. If any of these effects occur, seek medical attention immediately.
<b>Skin</b>	None under normal conditions. Given the composition of the accessory, it is unlikely it will cause irritation.
<b>Eyes</b>	None under normal conditions. If for any reason the explosive mass contacts the eyes, it may cause irritation.
<b>Ingestion</b>	Accidental ingestion of the explosive mass causes gastrointestinal disorders.
<b>Overexposure Symptoms-</b> No symptomatology when the authorized procedures for storage and handling and use are met.	
<b>Safety Precautions</b>	Avoid inhaling the gases resulting from combustion

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SECTION 12- ECOLOGICAL INFORMATION	
<b>Ecotoxicity</b>	This is an assembled product that does not expose its contents under normal conditions of handling.
<b>Persistence Degradability</b>	Not Applicable
<b>Bioaccumulation</b>	Bioaccumulation is not expected
<b>Environmental Effects</b>	This is an assembled product that does not expose its contents under normal conditions of handling.

SECTION 13- DISPOSAL CONSIDERATIONS	
<b>Waste Treatment Methods:</b>	All waste must be handled in accordance with the local, state and federal regulations. Use only properly trained personnel and proper procedures. Consult explosives manufacturer in case expert personnel is unavailable.
<b>Disposal of packages or containers</b>	All waste must be handled in accordance with the local, state and federal regulations. Disposal by only properly trained personnel. Consult explosives manufacturer in case expert personnel is unavailable.

SECTION 14- TRANSPORTATION INFORMATION	
<b>Proper Shipping Name</b>	Fuse, Safety, 1.4S, UN 0105, PG II
<b>Part Number/Name</b>	Cobra Timed Safety Fuse
<b>EX Number</b>	2005040495
<b>Dimensions</b>	600 x 320 x 280 mm
<b>Net Weight</b>	23 kg
<b>Gross Weight</b>	24 kg
<b>Net Explosive Content</b>	4.7 kg/case
Marine Pollutant: No	
Reference 49 CFR for specific Department of Transportation (DOT) shipping requirements	

SECTION 15- REGULATORY INFORMATION	
1.4 S- Explosive Regulations on Control of Explosives for Civilian/Commercial use by the Bureau of Alcohol, Tobacco, Firearms, and Explosives. Regulations on Transportation of Explosives for Civilian/Commercial use by the Department of Transportation.	

SECTION 16- OTHER INFORMATION	
The information contained herein is furnished without warranty of any kind. Employers should use this information as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from other sources to assure proper use of these materials and the safety and health of employees.	



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Quick Clean™ Safety Solvent and Degreaser</b>
<b>Other means of identification</b>	
<b>Product code</b>	03180
<b>Recommended use</b>	General purpose degreaser
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufactured or sold by:</b>	
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	215-674-4300
<b>Technical Assistance</b>	800-521-3168
<b>Customer Service</b>	800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	800-424-9300 (US) 703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

## 2. Hazard(s) identification

<b>Physical hazards</b>	Gases under pressure	Compressed gas
<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	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.
<b>Precautionary statement</b>	
<b>Prevention</b>	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.
<b>Response</b>	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.

<b>Storage</b>	Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	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

<b>Inhalation</b>	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.
<b>Skin contact</b>	Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	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.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	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

<b>Suitable extinguishing media</b>	Dry chemical, CO2, or water spray.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	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.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Fire-fighting equipment/instructions</b>	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

<b>Personal precautions, protective equipment and emergency procedures</b>	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.
<b>Methods and materials for containment and cleaning up</b>	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

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### 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

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	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.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong acids. Strong bases.
<b>Hazardous decomposition products</b>	Hydrogen chloride. Trace amounts of chlorine and phosgene. Carbon oxides. Halogenated materials. Carbonyl halides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	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
Quick Clean™ Safety Solvent and Degreaser		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	3305 mg/kg estimated
<b>Inhalation</b>		
LC50	Rat	20 mg/l, 4 Hours estimated
<b>Oral</b>		
LD50	Rat	2692 mg/kg estimated

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	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.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause drowsiness and dizziness.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

**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.

Components	Species	Test Results
Tetrachloroethylene (CAS 127-18-4)		
<b>Aquatic</b>		
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, 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** Forbidden from transportation by air.  
**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  
**Transport hazard class(es)**  
**Class** 2.2  
**Subsidiary risk** 6.1  
**Packing group** Not applicable.  
**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  
**Packing 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**

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**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)

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Tetrachloroethylene (CAS 127-18-4)

**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** Immediate Hazard - Yes

**Hazard categories** 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. Massachusetts RTK - Substance List**

Carbon dioxide (CAS 124-38-9)

Tetrachloroethylene (CAS 127-18-4)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Rhode Island RTK**

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)

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 General Purpose Degreaser (aerosol). This product is not compliant to be sold for use in California, Connecticut, Delaware, The District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, and Rhode Island. 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**

<b>Issue date</b>	09-18-2013
<b>Revision date</b>	02-25-2016
<b>Prepared by</b>	Allison Cho
<b>Version #</b>	03
<b>Further information</b>	CRC # 491G
<b>HMIS® ratings</b>	Health: 2* Flammability: 0 Physical hazard: 0 Personal protection: B
<b>NFPA ratings</b>	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.

# MATERIAL SAFETY DATA SHEET

Share Corporation  
P.O. Box 245013  
Milwaukee, WI 53224



GENERAL INFORMATION NUMBER: (414) 355-4000  
EMERGENCY TELEPHONE NUMBER: (800) 776-7192  
CHEMTREC: (800) 424-9300

REVISION DATE: April 9, 2002  
DATE OF ISSUE: May 2, 2002

## I - Product Identification

### Starting Fluid

PRODUCT CODE: 8550

CHEMICAL FORMULATION: Pressurized diethyl ether based engine starter.

NFPA HAZARD IDENTIFICATION SYSTEM: HEALTH: 2 FLAMMABILITY: 4 REACTIVITY: 1  
HAZARD RATING: 4 - Extreme; 3 - High; 2 - Moderate; 1 - Slight; 0 - Insignificant

## II - Hazardous Ingredients

Values reported as TWA unless noted.

<u>SUBSTANCE</u>	<u>APPROX</u> <u>%</u>	<u>OSHA</u> <u>PEL</u>	<u>ACGIH</u> <u>TLV</u>	<u>EPA 40 CFR:</u>			<u>CAS #</u>
				<u>302</u>	<u>355</u>	<u>372</u>	
Diethyl Ether	40.0-50.0	400 ppm	400 ppm	Y	N	N	60-29-7
Heptane, related light hydrocarbons	40.0-50.0	400 ppm	400 ppm	N	N	N	142-82-5
Mineral Oil, severely hydrotreated	< 1.0	500 ppm	N/E	N	N	N	64742-53-6
Carbon Dioxide	4.00-7.00	10,000 ppm	5000 ppm	N	N	N	124-38-9

Key: PEL: Permissible Exposure Limit TLV: Threshold Limit Value C: Ceiling level STEL: Short Term Exposure Limit  
N/A: Not Applicable N/D: Not Determined N/E: Not Established Y: Yes N: No  
302: CERCLA List of Hazardous Substances and Reportable Quantities (40 CFR 302.4).  
355: SARA TITLE III / List of Extremely Hazardous Substances for Emergency Planning and Notification (40 CFR 355).  
372: SARA TITLE III / List of Toxic Chemicals subject to Release Reporting (Community Right to Know) (40 CFR 372).

## III - Physical Data

BOILING POINT (°F): 94, for Diethyl ether  
VAPOR PRESSURE (mm Hg): N/D  
VAPOR DENSITY (AIR = 1): 2.5  
SOLUBILITY IN WATER: Slight  
APPEARANCE AND ODOR: Pale yellow to clear liquid, strong ethereal odor.

SPECIFIC GRAVITY (WATER = 1): 0.70  
VOC CONTENT (% by weight): 85.0 - 95.0  
EVAPORATION RATE (WATER = 1): > 1.0  
pH: N/A

## IV - Fire and Explosion Hazard Data

FLASH POINT (°F): < -56 (TEST METHOD): T.C.C. NFPA 30B Rating: 3  
FLAMMABLE LIMITS IN AIR (VOLUME %) UPPER: 48.0 LOWER: 1.8  
EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical.  
SPECIAL FIRE FIGHTING PROCEDURES: Avoid possible accumulations of vapors at floor level, as vapor is heavier than air. Cool fire exposed containers with water fog. Firefighters should be equipped with full protective gear including self-contained breathing apparatus.  
UNUSUAL FIRE AND EXPLOSION HAZARD: Contents under pressure! Exposure to temperatures above 120° F may cause bursting. Extremely flammable.

---

**V - Reactivity Data**

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**STABILITY:** Unstable explosive peroxides may be formed and concentrate by evaporation to hazardous levels. This process is favored by prolonged storage with exposure to air and light. Product is generally stable in sealed metal containers.

**INCOMPATIBILITY:** Strong acids and oxidizers.

**CONDITIONS TO AVOID:** Excess heat, open flame sparks.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may produce oxides of carbon.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** None

---

**VI - Health Hazard Data**

---

**ROUTES OF ENTRY**    **INHALATION:** X    **EYE CONTACT:**    **SKIN CONTACT:** X    **INGESTION:**  
**INGREDIENTS THAT ARE CONSIDERED BY OSHA, NTP, IARC TO BE SUSPECTED HUMAN CARCINOGENS:** None

**EFFECTS OF OVEREXPOSURE**

**IF IN EYES:** Irritation.

**IF ON SKIN:** Irritation, defatting and dermatitis with prolonged or repeated exposure.

**IF SWALLOWED:** Gastrointestinal irritation, nausea, cramps, diarrhea. May be harmful or fatal if swallowed.

**IF INHALED:** : Dizziness, strong anesthesia, intoxication, loss of consciousness.

**EMERGENCY AND FIRST AID PROCEDURES**

**IF IN EYES:** Flush eyes and under eyelids with plenty of cool water for at least 15 minutes. If irritation persists, obtain medical attention.

**IF ON SKIN:** Remove contaminated clothing and wash with soap and water.

**IF SWALLOWED:** Contact physician or poison control center immediately. Do not induce vomiting. Proper treatment is dependent upon condition of patient and amount ingested.

**IF INHALED:** Remove person to fresh air. If breathing has stopped, administer artificial respiration. Obtain medical attention.

---

**VII - Spill or Leak Protection**

---

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Ventilate area and remove all sources of ignition. CO<sub>2</sub> may be used as a precautionary blanket. Soak up material with inert absorbent material and place in a labeled closed container for disposal.

**WASTE DISPOSAL METHOD:** Consult local environmental authorities. Dispose of cans in non-incinerated trash only.

---

**VIII - Special Protection Information**

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**RESPIRATORY PROTECTION:** Use with adequate ventilation. Do not breathe vapors or mists. If recommended Exposure Limits are exceeded, wear a NIOSH approved respirator, following manufacturer's recommendations.

**VENTILATION**

**LOCAL:** Recommended

**MECHANICAL:** Not required

**PROTECTIVE GLOVES:** Chemical resistant.

**EYE PROTECTION:** Safety glasses or goggles.

**OTHER PROTECTIVE EQUIPMENT:** None.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Store in a cool, dry place away from heat or open flame.

**OTHER PRECAUTIONS:** Keep out of reach of children. Do not puncture or incinerate container.

---

**IX - Transportation Information (ground transportation only)**

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**DOT PROPER SHIPPING NAME:** Consumer Commodity

**DOT CLASS:** ORM-D

**DOT ID NUMBER:** None

**DOT PACKING GROUP:** None

The shipping information listed above applies only to non-bulk (< 119 gallons) containers of this product. This product may have more than one proper shipping name depending on packaging, product properties, & mode of shipment. If any alteration of packaging, product, or mode of transportation is further intended, different shipping names and labeling may apply.

---

**REVISION DATE:** April 9, 2002

**Prepared by:** PMR

**DATE OF ISSUE:** May 2, 2002

This information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Share Corporation assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material such vendees or users assume all risks associated with the use of this material.



Get the most comprehensive  
MSDS/HazCom program on the market!

## WAGNER 21B SUPER HEAVY DUTY BRAKE FLUID

Product and Company Identification  
Composition/Information on Ingredients  
Hazards Identification  
First Aid Measures  
Fire Fighting Measures  
Accidental Release Measures  
Handling and Storage  
Exposure Controls/Personal Protection

Physical and Chemical Properties  
Stability and Reactivity  
Toxicological Information  
Ecological Information  
Disposal Considerations  
Transport Information  
Regulatory Information  
Other Information / Hazmat  
Info / Hazcom Label

!! This is an ARCHIVE Record !!

### MSDS Safety Information

TOP

FSC: 9150 NIIN: 00-291-3165 MSDS Date: 11/25/1985 MSDS Num: CFQWH

Submitter: N EN Tech Review: 11/04/1997 Status CD: C

Product ID: WAGNER 21B SUPER HEAVY DUTY BRAKE FLUID MFN: 01

Article: N Kit N Part:

Responsible Party Cage: MACGR

Name: WAGNER DIV MCGRAW-EDISON CO

Address: 100 MISTY LANE

City: PARSIPPANY State: NJ Zip: 07054

Country: US

Info Phone Number: 201-386-9300

Emergency Phone Number: 312-583-8150

Preparer's Name: N/P

Proprietary Ind: N

Review Ind: N

Published: Y

Special Project CD: N

### Contractor Summary

TOP

Cage: MACGR Name: WAGNER DIV MCGRAW-EDISON CO

Address: 100 MISTY LANE

City: PARSIPPANY State: NJ Zip: 07054

Country: US

Phone: 201-386-9300

**= Item Description Information =**

[TOP](#)

Item Manager: NK  
Item Name: N/A  
Specification Number: NK  
Unit of Issue: NK  
UI Container Qty: NK  
Type/Grade/Class: NK  
Quantitative Expression: NK  
Type of Container:

**Ingredients**

[TOP](#)

Cas: 111-46-6 Code: M RTECS #: ID5950000 Code: M

Name: DIETHYLENE GLYCOL

% Text: 16

Environmental Wt:

Other REC Limits: N/K

OSHA PEL: N/K (FP N)	Code: M	OSHA STEL:	Code:
ACGIH TLV: N/K (FP N)	Code: M	ACGIH N/P STEL:	Code:
EPA Rpt Qty:		DOT Rpt Qty:	

Ozone Depleting Chemical: N

**Health Hazards Data**

[TOP](#)

LD50 LC50 Mixture NONE SPECIFIED BY MANUFACTURER.

Route Of Entry Inds - Inhalation: YES Skin: YES Ingestion: YES  
Carcinogenicity Inds - NTP: NO IARC: NO OSHA: NO

Health Hazards Acute And Chronic

CAN BE TOXIC IF INGESTED IN LARGE QUANTITIES. CONTAINS DIETHYLENE GLYCOL, WHICH CAN BE AN EYE IRRITANT.

Explanation Of Carcinogenicity

NOT RELEVANT.

Signs And Symptoms Of Overexposure

SEE HEALTH HAZARDS.

Medical Cond Aggravated By Exposure

NONE SPECIFIED BY MANUFACTURER.

**First Aid Information**

[TOP](#)

EYE: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. INHALATION: REMOVE TO FRESH AIR. SUPPORT BREATHING (GIVE OXYGEN/ARTIFICIAL RESPIRATION) (FP N). SKIN: WASH WITH SOAP AND WATER. INGESTION: CALL PHYSICIAN IMMEDIATELY.

**Spill Release Procedures**

[TOP](#)

ADD DRY ABSORBENT, SHOVEL OR SWEEP UP. FLUSH RESIDUAL MATERIAL WITH WATER. WASH CONTAMINATED CLOTHING.

Neutralizing Agent

NONE SPECIFIED BY MANUFACTURER.

**Waste Disposal Methods**

[TOP](#)

**Handling and Storage Precautions**

[TOP](#)

AVOID CONTACT WITH EYES AND SKIN. DO NOT TAKE INTERNALLY.

**Other Precautions**

NONE.

**Fire and Explosion Hazard Information**

[TOP](#)

Flash Point Method: COC

Flash Point:

Flash Point Text: 527F,275C

Autoignition Temp:

Autoignition Temp Text: N/A

Lower Limits: N/K

Upper Limits: N/K

**Extinguishing Media**

WATER, DRY CHEMICAL, ALCOHOL FOAM, CARBON DIOXIDE.

**Fire Fighting Procedures**

USE NIOSH APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).

**Unusual Fire/Explosion Hazard**

NONE.

**Control Measures**

[TOP](#)

**Respiratory Protection**

USE NIOSH APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).

**Ventilation**

NONE SPECIFIED BY MANUFACTURER.

**Protective Gloves**

IMPERVIOUS GLOVES (FP N).

**Eye Protection**

ANSI APPRVD CHEM WORKERS GOGGLES (FP N).

**Other Protective Equipment**

ANSI APPROVED EYE WASH & DELUGE SHOWER (FP N).

**Work Hygienic Practices**

PRACTICE REASONABLE CARE AND PERSONAL CLEANLINESS.

**Supplemental Safety and Health**

NONE SPECIFIED BY MANUFACTURER.

**Physical/Chemical Properties**

[TOP](#)

HCC:

NRC/State LIC No:

Net Prop WT For Ammo:

Boiling Point:

B.P. Text: 450F,232C

Melt/Freeze Pt:

M.P/F.P Text: N/K

Decomp Temp:

Decomp Text: N/K

Vapor Pres: N/K

Vapor Density: N/K

Volatile Org Content %: Spec Gravity: 1.043 (H\*2O=1)  
VOC Pounds/Gallon: PH: N/K  
VOC Grams/Liter: Viscosity: N/P  
Evaporation Rate & N/K  
Reference:  
Solubility in Water: SOLUBLE  
Appearance and Odor: CLEAR, MILD-CHARACTERISTIC ODOR.  
Percent Volatiles by Volume: N/K Corrosion Rate: N/K

Seton Resource Center

Allow access to non-virtual folders: 0

**Reactivity Data**

[TOP](#)

Stability Indicator: YES  
Stability Condition To Avoid: NONE SPECIFIED BY MANUFACTURER.  
Materials To Avoid: OXIDIZING AGENTS.  
Hazardous Decomposition NONE SPECIFIED BY MANUFACTURER.  
Products:  
Hazardous Polymerization NO  
Indicator:  
Conditions To Avoid NOT RELEVANT.  
Polymerization:

**Toxicological Information**

[TOP](#)

Toxicological Information: N/P

**Ecological Information**

[TOP](#)

Ecological: N/P

**MSDS Transport Information**

[TOP](#)

Transport Information: N/P

**Regulatory Information**

[TOP](#)

Sara Title III Information: N/P  
Federal Regulatory Information: N/P  
State Regulatory Information: N/P

**Other Information**

[TOP](#)

Other N/P  
Information:

**HMIS Transportation Information**

[TOP](#)

Responsible Party Cage: MACGR Trans ID NO: 67955  
Product ID: WAGNER 21B SUPER HEAVY DUTY BRAKE FLUID  
MSDS Prepared Date: 11/25/1985 Review Date: 01/08/1998  
MFN: 1  
Submitter: N TN Status CD: C  
Article W/O MSDS: N Tech Entry NOS Shipping Nm:  
Radioactivity: Form:

Net Explosive Weight:  
Coast Guard AMMO Code: Magnetism: N/P  
Net Unit Weight: AF MMAC Code:  
DOD Exemption NUM: Limited Quantity IND:  
Multiple KIT Number: 0 Kit IND: N  
Kit Part IND: N Review IND: Y  
Unit Of Issue: NK Container QTY: NK  
Type Of Container:  
Additional Data:

**Detail DOT Information**

[TOP](#)

DOT PSN Code: ZZZ Symbols: N/R  
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
DOT PSN Modifier:  
Hazard Class: N/R UN ID Num: N/R  
DOT Packaging Group: N/R  
Label: N/R  
Special Provision: N/R  
Packaging Exception: N/R  
Non Bulk Pack: N/R Bulk Pack: N/R  
Max Qty Pass: N/R Max Qty N/R  
Cargo:  
Vessel Stow Req: N/R  
Water/Ship/Other Req: N/R

**Detail IMO Information**

[TOP](#)

IMO PSN Code: ZZZ  
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION  
IMO PSN Modifier:  
IMDG Page Number: N/R UN Number: N/R  
UN Hazard Class: N/R IMO Packaging Group: N/R  
Subsidiary Risk Label: N/R  
EMS Number: N/R MED First Aid Guide NUM: N/R

**Detail IATA Information**

[TOP](#)

IATA PSN Code: ZZZ IATA UN ID N/R  
NUM:  
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF  
TRANSPORTATION  
IATA PSN Modifier:  
IATA UN Class: N/R Subsidiary Risk Class: N/R  
IATA Label: N/R  
UN Packing Group: N/R Packing Note Passenger: N/R

Max Quant Pass: N/R  
Packaging Note Cargo: N/R

Max Quant Cargo: N/R  
Exceptions: N/R

**Detail AFI Information**

[TOP](#)

AFI PSN Code: ZZZ  
AFI Symbols:  
AFI Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
AFI PSN Modifier:  
AFI Hazard Class: N/R  
AFI UN ID NUM: N/R  
AFI Packing Group: N/R  
AFI Label: N/R  
Special Provisions: N/A  
Back Pack Reference: N/A

**HMIS HAZCOM Label**

[TOP](#)

Product ID: WAGNER 21B SUPER HEAVY DUTY BRAKE FLUID

Cage: MACGR  
Assigned IND: Y  
Company Name: WAGNER DIV MCGRAW-EDISON CO  
Street: 100 MISTY LANE  
City: PARSIPPANY  
State: NJ  
Country: US  
PO Box:  
Zipcode: 07054

Health Emergency Phone: 312-583-8150

Label Required IND: Y  
Status Code: C  
Label Date: 11/11/1997  
Origination Code: G  
Eye Protection IND: N/P  
Signal Word: CAUTION  
Health Hazard: Slight  
Contact Hazard: Slight  
Fire Hazard: Slight  
Reactivity Hazard: None  
Date Of Label Review: 11/11/1997  
MFG Label NO:  
Year Procured: N/K  
Chronic Hazard IND: N  
Skin Protection IND: N/P  
Respiratory Protection IND: N/P

**Hazard And Precautions**

COMBUSTIBLE. ACUTE: CAN BE TOXIC IF INGESTED IN LARGE QUANTITIES. CONTAINS DIETHYLENE GLYCOL, WHICH CAN BE AN EYE IRRITANT. CHRONIC: NONE SPECIFIED BY MANUFACTURER.

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## SECTION II - Manufacturer's Information

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Manufacturer Name	KANO LAB.INC
Emergency Phone	615-833-4101

## MSDS Preparer's Information

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MSDS Preparer Name	P R ZIMMERMAN
Date MSDS Prepared/Revised	NONE
Date of Technical Review	31DEC87
Active Indicator	N

## Alternate Vendors

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Vendor #5 CAGE	BFVWB
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## Material Safety Data Sheet California CARB Compliant

### 1 - Chemical Product and Company Identification

<p><b>Manufacturer:</b> WD-40 Company  <b>Address:</b> 1061 Cudahy Place (92110)          P.O. Box 80607          San Diego, California, USA          92138 -0607</p> <p><b>Telephone:</b>  <b>Emergency only:</b> 1-888-324-7596 (PROSAR)  <b>Information:</b> 1-888-324-7596  <b>Chemical Spills:</b> 1-800-424-9300 (Chemtrec)          1-703-527-3887 (International Calls)</p>	<p><b>Chemical Name:</b> Organic Mixture</p> <p><b>Trade Name:</b> WD-40 Aerosol (25% VOC)</p> <p><b>Product Use:</b> Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion</p> <p><b>MSDS Date Of Preparation:</b> 2/14/14</p>
---	---

### 2 – Hazards Identification

<p><b>Emergency Overview:</b>  <b>DANGER!</b> 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.</p> <p><b>Symptoms of Overexposure:</b>  <b>Inhalation:</b> 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.  <b>Skin Contact:</b> Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.  <b>Eye Contact:</b> Contact may be irritating to eyes. May cause redness and tearing.  <b>Ingestion:</b> 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.  <b>Chronic Effects:</b> None expected.  <b>Medical Conditions Aggravated by Exposure:</b> Preexisting eye, skin and respiratory conditions may be aggravated by exposure.</p> <p><b>Suspected Cancer Agent:</b>          Yes    No <input checked="" type="checkbox"/></p>
---

### 3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
LVP Aliphatic Hydrocarbon	64742-47-8	40-50
Aliphatic Hydrocarbon	64742-47-8	<25
Petroleum Base Oil	64742-58-1	<25
	64742-53-6	
	64742-56-9	
	64742-65-0	
Non-Hazardous Ingredients	Mixture	<10
Carbon Dioxide	124-38-9	2-3

### 4 – First Aid Measures

<p><b>Ingestion (Swallowed):</b> Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.</p>
--

**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°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

**8 – Exposure Controls/Personal Protection**

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
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
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
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°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	<25%	VOC:	206 grams/liter (25%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F ) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°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

After 1/1/2014 UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)

IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY

ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol 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, 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)**

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