

# FS-ONE MAX; CFS-FIL

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 07/04/2017

Revision date: 07/04/2017

Supersedes: 12/17/2015

Version: 1.3

### SECTION 1: Identification

#### 1.1. Identification

Product form	Mixture
Name	FS-ONE MAX; CFS-FIL
Product code	BU Fire Protection
Chemical structure	



#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Hilti, Inc.  
 Legacy Tower, Suite 1000  
 75024 Plano - USA  
 T +1 9724035800  
 1-800-879-8000 toll free - F +1 918 254 0522

#### Supplier

Hilti, Inc.  
 Legacy Tower, Suite 1000  
 75024 Plano - USA  
 T +1 9724035800  
 1-800-879-8000 toll free - F +1 918 254 0522

#### Department issuing data specification sheet

Hilti AG  
 Feldkircherstraße 100  
 9494 Schaan - Liechtenstein  
 T +423 234 2111  
[chemicals.hse@hilti.com](mailto:chemicals.hse@hilti.com)

#### 1.4. Emergency telephone number

Emergency number	Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Not classified

#### 2.2. Label elements

##### GHS-US labelling

No labelling applicable

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Quartz	(CAS No) 14808-60-7	2.5 - 5	Carc. 1A, H350

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation	Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Get medical advice/attention if you feel unwell.

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Special hazards arising from the substance or mixture

Reactivity The product is non-reactive under normal conditions of use, storage and transport.

#### 5.3. Advice for firefighters

Protection during firefighting Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

Protective equipment For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

No additional information available

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up Mechanically recover the product.

#### 6.4. Reference to other sections

For further information refer to section 13.



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Density	≈ 1.35 g/cm <sup>3</sup>
Molecular mass	Not determined
Solubility	No data available
Log Pow	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available

### 9.2. Other information

VOC content	9 g/l
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	Not classified
Skin corrosion/irritation	Not classified pH: ≈ 7.85
Serious eye damage/irritation	Not classified pH: ≈ 7.85
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified

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Aspiration hazard Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on the global warming No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods Dispose of contents/container in accordance with licensed collector's sorting instructions.  
 Waste disposal recommendations Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. UN proper shipping name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available			

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### 14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID) No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

### 15.2. International regulations

#### CANADA

<b>FS-ONE MAX; CFS-FIL</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### National regulations

<b>Quartz (14808-60-7)</b>
Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

Revision date 07/04/2017

Full text of H-statements:

H350	May cause cancer
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NFPA health hazard

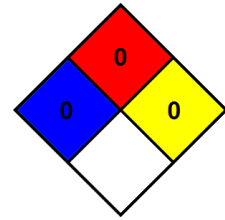
0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

0 - Material that in themselves are normally stable, even under fire conditions.



**Hazard Rating**

Health

0 Minimal Hazard - No significant risk to health

Flammability

0 Minimal Hazard - Materials that will not burn

Physical

0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

B

B - Safety glasses, Gloves

SDS\_US\_Hilti

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*

COMPANY IDENTITY: Noble Company  
PRODUCT IDENTITY: FIREFIGHTER GL38

SDS DATE: 01/21/2015  
ORIGINAL: 01/21/2015

**SAFETY DATA SHEET**

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements of the Global Harmonizing System.  
THIS SDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)  
IMPORTANT: Read this SDS before handling & disposing of this product.  
Pass this information on to employees, customers, & users of this product.

**SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER**

PRODUCT IDENTITY: FIREFIGHTER GL38  
PRODUCT USES: Chemical Processing  
  
COMPANY IDENTITY: Noble Company  
COMPANY ADDRESS: 7300 Enterprise Dr.  
COMPANY CITY: Spring Lake, MI 49456  
COMPANY PHONE: 1-231-799-8000  
EMERGENCY PHONE: 1-231-799-8000

**SECTION 2. HAZARDS IDENTIFICATION**

**CAUTION**

**2.1 HAZARD STATEMENTS: (CAT = Hazard Category)**

This product does not meet the Global Harmonizing System criteria for classification.  
Hazard(s) not otherwise classified: Not Classified.  
GHS PICTOGRAMS: Not Applicable  
GHS SIGNAL WORD: Not Applicable  
GHS HAZARD STATEMENTS: Not Applicable  
GHS PRECAUTIONARY STATEMENTS: Not Applicable

**2.2 PRECAUTIONARY STATEMENTS:**

PREVENTION: Observe good industrial hygiene practices. Isolate from extreme heat & flame.  
RESPONSE: Wash hands after handling.  
STORAGE: Store away from incompatible materials.  
DISPOSAL: Dispose of waste and residues in accordance with local authority requirements.

**SEE SECTIONS 8, 11 & 12 FOR TOXICOLOGICAL INFORMATION.**

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

MATERIAL	CAS#	EINECS#	WT %
Water	7732-18-5	231-791-2	61-63
Glycerol	56-81-5	-	36-38
Dye	Confidential	-	0- 1

The specific chemical component identities and/or the exact component percentages of this material may be withheld as a trade secret. This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1).

TRACE COMPONENTS: Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, reproductive toxins, respiratory tract mutagens, and sensitizers). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents, and Canadian Hazardous Materials Identification System Standard (CPR 4).

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#### SECTION 4. FIRST AID MEASURES

- 4.1 MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE & CHRONIC:  
See Section 11 for Symptoms/Effects (acute & chronic).
- 4.2 EYE CONTACT:  
For eyes, flush with plenty of water for 15 minutes & get medical attention.
- 4.3 SKIN CONTACT:  
In case of contact with skin immediately remove contaminated clothing.  
Wash thoroughly with soap & water. Wash contaminated clothing before reuse.
- 4.4 INHALATION:  
After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR).
- 4.5 SWALLOWING:  
Rinse mouth. GET MEDICAL ATTENTION IMMEDIATELY. Do NOT give liquids to an unconscious or convulsing person.

#### SECTION 5. FIRE FIGHTING MEASURES

- 5.1 FIRE & EXPLOSION PREVENTIVE MEASURES:  
NO open flames.
- 5.2 SUITABLE (& UNSUITABLE) EXTINGUISHING MEDIA:  
Use dry powder, alcohol-resistant foam, water spray, carbon dioxide.
- 5.3 SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS FOR FIRE FIGHTERS:  
Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.  
Do not enter confined fire-space without full bunker gear.  
(Helmet with face shield, bunker coats, gloves & rubber boots).
- 5.4 SPECIFIC HAZARDS OF CHEMICAL & HAZARDOUS COMBUSTION PRODUCTS:  
SLIGHTLY COMBUSTIBLE!  
Isolate from oxidizers, heat, & open flame.  
Closed containers may explode if exposed to extreme heat.  
Applying to hot surfaces requires special precautions.  
Continue all label precautions!

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT & EMERGENCY PROCEDURES:  
Keep unprotected personnel away.  
Wear appropriate personal protective equipment given in Section 8.
- 6.2 ENVIRONMENTAL PRECAUTIONS:  
Keep from entering storm sewers and ditches which lead to waterways.
- 6.3 METHODS & MATERIAL FOR CONTAINMENT & CLEAN-UP:  
Stop spill at source. Dike and contain. Collect leaking liquid in sealable containers.  
Absorb remaining liquid in sand or inert absorbent. Remove to safe place.

#### SECTION 7. HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:  
Isolate from oxidizers, heat, & open flame. Use only with adequate ventilation.  
Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.  
Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, braze, or weld. Continue all label precautions!
- 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:  
Keep separated from strong oxidants. Do not store above 49 C/120 F.  
Keep container tightly closed & upright when not in use to prevent leakage.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 EXPOSURE LIMITS:

MATERIAL	CAS#	EINECS#	TWA (OSHA)	TLV (ACGIH)
Water	7732-18-5	231-791-2	None Known	None Known
Glycerol	56-81-5	-	None Known	None Known
Dye	Confidential	-	None Known	None Known

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.

### 8.2 APPROPRIATE ENGINEERING CONTROLS:

#### RESPIRATORY EXPOSURE CONTROLS

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

#### VENTILATION

LOCAL EXHAUST: Necessary                      MECHANICAL (GENERAL): Acceptable  
 SPECIAL: None                                      OTHER: None  
 Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

### 8.3 INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT:

#### PERSONAL PROTECTIONS:

Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.

#### WORK & HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers.  
 Wash at end of each workshift & before eating, smoking or using the toilet.  
 Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

## SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE: Liquid, Orange  
 ODOR: Characteristic  
 ODOR THRESHOLD: Not Available  
 pH (Neutrality): Not Available  
 MELTING POINT/FREEZING POINT: +18 C / +64 F (solidifies at much lower temp)  
 BOILING RANGE (IBP,50%,Dry Point): 100 100 290\* C / 212 212 554\* F (\*=End Point)  
 FLASH POINT (TEST METHOD): 177 C / 352 F (COC)  
 EVAPORATION RATE (n-Butyl Acetate=1): Not Applicable  
 FLAMMABILITY CLASSIFICATION: Class III-B  
 LOWER FLAMMABLE LIMIT IN AIR (% by vol): 10.0 (Lowest Component)  
 UPPER FLAMMABLE LIMIT IN AIR (% by vol): Not Available  
 VAPOR PRESSURE (mm of Hg)@20 C: 17.5  
 VAPOR DENSITY (air=1): 0.670  
 GRAVITY @ 68/68 F / 20/20 C:  
   DENSITY: 1.102  
   SPECIFIC GRAVITY (Water=1): 1.105  
   POUNDS/GALLON: 9.205  
 WATER SOLUBILITY: Appreciable  
 PARTITION COEFFICIENT (n-Octane/Water): -2.6 (calculated)  
 AUTO IGNITION TEMPERATURE: Not Applicable  
 DECOMPOSITION TEMPERATURE: Not Available  
 TOTAL VOC'S (TVOC)\*: 0.0 Vol% / 0.0 g/L / 0.000 Lbs/Gal  
 NONEXEMPT VOC'S (CVOC)\*: 0.0 Vol% / 0.0 g/L / 0.000 Lbs/Gal  
 HAZARDOUS AIR POLLUTANTS (HAPS): 0.0 Wt% / 0.0 g/L / 0.000 Lbs/Gal  
 NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C) 0.0  
 VISCOSITY @ 20 C (ASTM D445): 4.4 mPa.s  
 \* Using CARB (California Air Resources Board Rules).

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### SECTION 10. STABILITY & REACTIVITY

#### 10.1 REACTIVITY & CHEMICAL STABILITY:

Stable under normal conditions, no hazardous reactions when kept from incompatibles.

#### 10.2 POSSIBILITY OF HAZARDOUS REACTIONS & CONDITIONS TO AVOID:

Isolate from oxidizers, heat, & open flame.

#### 10.3 INCOMPATIBLE MATERIALS:

The substance decomposes on extreme heating producing fumes of acrolein.  
The substance can readily react with strong oxidants, causing fire & explosion hazard.

#### 10.4 HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Oxides, acrolein from burning.

#### 10.5 HAZARDOUS POLYMERIZATION:

Will not occur.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1 ACUTE HAZARDS

##### 11.11 EYE & SKIN CONTACT:

Not irritating to skin. May be irritating to eyes. Wash thoroughly after handling.

##### 11.12 INHALATION:

Not likely to cause irritation at ambient temperatures. Mist can cause irritation.

##### 11.13 SWALLOWING:

Unlikely to be harmful unless excessive amount is swallowed.

#### 11.2 SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

##### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Pre-existing disorders of any target organs mentioned in this Document can be aggravated by over-exposure by routes of entry to components of this product. Persons with these disorders should avoid use of this product.

#### 11.3 CHRONIC HAZARDS

##### 11.31 CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:

This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH, as of this date, greater or equal to 0.1%.

11.32 TARGET ORGANS: May cause damage to target organs, based on animal data.

11.33 IRRITANCY: Irritating to contaminated tissue.

11.34 SENSITIZATION: No component is known as a sensitizer.

11.35 MUTAGENICITY: No known reports of mutagenic effects in humans.

11.36 EMBRYOTOXICITY: No known reports of embryotoxic effects in humans.

11.37 TERATOGENICITY: No known reports of teratogenic effects in humans.

11.38 REPRODUCTIVE TOXICITY: No known reports of reproductive effects in humans.

A MUTAGEN is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate across generational lines. An EMBRYOTOXIN is a chemical which causes damage to a developing embryo (such as: within the first 8 weeks of pregnancy in humans), but the damage does not propagate across generational lines. A TERATOGEN is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A REPRODUCTIVE TOXIN is any substance which interferes in any way with the reproductive process.

#### 11.4 MAMMALIAN TOXICITY INFORMATION

LD50 (Oral): > 2000 mg/kg (Rat)

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## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

### 12.2 EFFECT OF MATERIAL ON PLANTS AND ANIMALS:

This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

### 12.3 EFFECT OF MATERIAL ON AQUATIC LIFE:

LC50 / 96 hours: >5000 mg/L (Fish)  
 EC50 / 24 hours: >10000 mg/L (Daphnia magna)  
 EC50 / 16 hours: >10000 mg/L (Pseudomonas putida)

### 12.4 MOBILITY IN SOIL

Mobility of this material has not been determined.

### 12.5 DEGRADABILITY

This product is completely biodegradable.  
 BOD5/COD: 0.87/1.16 (gO<sub>2</sub>/g)

### 12.6 ACCUMULATION

Bioaccumulation of this product has not been determined.

## SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal.  
**ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES.**

## SECTION 14. TRANSPORT INFORMATION

MARINE POLLUTANT: No  
 DOT/TDG SHIP NAME: Not Regulated  
 DRUM LABEL: None  
 IATA / ICAO: Not Regulated  
 IMO / IMDG: Not Regulated  
 EMERGENCY RESPONSE GUIDEBOOK NUMBER: None

## SECTION 15. REGULATORY INFORMATION

### 15.1 EPA REGULATION:

**SARA SECTION 311/312 HAZARDS: None Known**

All components of this product are on the TSCA list.  
 This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

### 15.2 STATE REGULATIONS:

THIS PRODUCT MEETS REQUIREMENTS OF SOUTHERN CALIFORNIA AQMD RULE 443.1 & SIMILAR REGULATIONS

CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65):  
 This product contains no chemicals known to the State of California to cause cancer or reproductive toxicity.

### 15.3 INTERNATIONAL REGULATIONS

The identified components of this product are listed on the chemical inventories of the following countries:  
 Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS), Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

### 15.4 CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

D2B: Irritating to skin / eyes.

This product was classified using the hazard criteria of the Controlled Products Regulations (CPR). This Document contains all information required by the CPR.

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**SECTION 16. OTHER INFORMATION**

**16.1 HAZARD RATINGS:**

**HEALTH (NFPA): 1, HEALTH (HMIS): 1, FLAMMABILITY: 1, PHYSICAL HAZARD: 0**  
(Personal Protection Rating to be supplied by user based on use conditions.)  
This information is intended solely for the use of individuals  
trained in the NFPA & HMIS hazard rating systems.

**16.2 EMPLOYEE TRAINING**

See Section 2 for Risk & Safety Statements. Employees should be made aware  
of all hazards of this material (as stated in this SDS) before handling it.

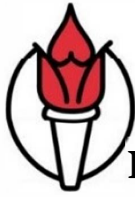
**16.3 SDS DATE: 01/21/2015**

**NOTICE**

The supplier disclaims all expressed or implied warranties of merchantability or fitness  
for a specific use, with respect to the product or the information provided herein,  
except for conformation to contracted specifications. All information appearing herein  
is based upon data obtained from manufacturers and/or recognized technical sources.  
While the information is believed to be accurate, we make no representations as to its  
accuracy or sufficiency.

Conditions of use are beyond our control, and therefore users are responsible for  
verifying the data under their own operating conditions to determine whether the product  
is suitable for their particular purposes and they assume all risks of their handling,  
and disposal of the product. Users also assume all risks in regards to the publication  
or use of, or reliance upon information contained herein.  
This information relates only to the product designated herein, and does not relate to  
its use in combination with any other material or process.

Unless updated, the Safety Data Sheet is valid until 01/21/2018.  
Safety Data Sheet was prepared by: Chemical Data Services, e-mail: chemdatsrv@aol.com.



LYMPIC WEST  
FIRE PROTECTION  
LLC

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Tempe, Arizona 85282  
480-968-9634  
Fax 480-968-5854

AZ ROC095830 C-16 • AZ ROC 21441 R-16 • NV C-41-A 0042155

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## HAZARD COMMUNICATION STANDARD: SAFETY DATA SHEETS

This program has been prepared to comply with the requirements of the Federal OSHA Standard 1926.59, which was revised in 2012, and to ensure that information necessary for the safe use, handling and storage of hazardous chemicals is provided to and made available to employees.

This program includes guidelines on identification of chemical hazards and the preparation and proper use of container, label placards and other types of warning devices.

### Worksite Name & Address:

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## CHEMICAL INVENTORY

1. Olympic West Fire Protection LLC maintains an inventory of all known chemicals in use on the worksite. A chemical inventory list is available from Terry Forney, Purchasing Agent.
2. Hazardous chemicals brought onto the worksite by Olympic West Fire Protection LLC will be included on the hazardous chemical list.

### **I. Container Labeling**

1. All chemicals on site will be stored in their original or approved containers with proper label attached, except small quantities for immediate use. Any container not properly labeled should be given to the Job Foreman for labeling or proper disposal.
2. Workers may dispense chemicals from original containers only in small quantities intended for immediate use. Any chemical left after work is completed must be returned to the original container or the Job Foreman for proper handling.
3. No unmarked containers of any size to be left in the work area unattended.
4. Olympic West Fire Protection LLC will rely on the manufacturer applied labels whenever possible and will ensure that these labels are maintained. Containers that are not labeled or on which the manufacturer's label has been removed will be relabeled.
5. Olympic West Fire Protection LLC will ensure that each container is labeled with the identity of the hazardous chemical contained and any appropriate hazard warnings.

### **II. Safety Data Sheets**

1. Employees working with Hazardous Chemicals may request a copy of the Safety Data Sheets (SDS). Requests should be made to Terry Forney, Purchasing Agent.
2. SDS should be made available and standard chemical reference may also be available on the jobsite to provide immediate reference to chemical safety information.
3. An emergency procedure to gain access to SDS information will be established.

### **III. Employee Training**

Employees will be trained to work safely with hazardous chemicals. Employee training will include:

1. Methods that may be used to detect a release of hazardous chemical(s) in the workplace.
2. Physical and health hazards associated with chemicals.
3. Protective measures to be taken.
4. Safe work practices, emergency responses and the use of personnel protective equipment.
5. Information on the Hazard Communication Standard including labeling and warning systems and an explanation of Safety Data Sheets.

### **IV. Personnel Protective Equipment**

Required PPE is available from Terry Forney, Purchasing Agent. Any employee found in violation of PPE requirements may be subject to disciplinary actions up to and including discharge.

### **V. Emergency Response**

1. Any incident of over-exposure or spill of hazardous chemical/substance must be reported to Michael Amdahl, Vice-President, at once.
2. The Foreman or immediate supervisor will be responsible for ensuring that proper emergency response actions are taken in leak/spill situations.

### **VI. Hazards of Non-Routine Tasks**

1. Supervisors will inform employees of any special tasks that may arise which would involve possible exposure to hazardous chemicals.
2. Review of safe work procedures and use of required PPE will be conducted prior to the start of such tasks. Where necessary, areas will be posted to indicate the nature of the hazard involved.

### **VII. Informing Other Employees**


1. Other on-site employers are required to adhere to the provisions of the Hazard Communication Standard.
2. Information on hazardous chemicals known to be present will be exchanged with other employers. Employers will be responsible for providing necessary information to their employees.
3. Other on-site employers will be provided with a copy of Olympic West Fire Protection LLC's Safety Data Sheets.

### **VIII. Posting**

Olympic West Fire Protection LLC has posted information for employees at this job site on the Hazard Communication Standard. This information can be found at the job site trailer on the Olympic West Fire Protection LLC Tool-box.

**Safety Data Sheet – INDEX**

- I. General Caulk (DAP Alex Plus Acrylic Caulk w/ Silicone)
- II. Unleaded Gasoline
- III. Diesel Fuel
- IV. Thread Fit (Cutting Oil)
- V. Propylene Glycol (Anti-Freeze)
- VI. Whitlam Power Seal POW32 (Pipe Dope)
- VII. ARGO Tuf-Lube (Grease)
- VIII. Chlorine
- IX. 3M Fire Barrier Caulk
- X. Acetylene

	<h1>Safety Data Sheet</h1>	<p><b>24 Hour Emergency Phone Numbers</b>  <b>Medical/Poison Control:</b>  <b>In U.S.: Call 1-800-222-1222</b></p> <p><b>Outside U.S.: Call your local poison control center</b></p> <p><b>Transportation/National Response Center:</b></p> <p style="text-align: center;"><b>1-800-535-5053</b>  <b>1-352-323-3500</b></p> <p><small>NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.</small></p>
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IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

## 1. Identification

This Safety Data Sheet is available in American Spanish upon request.  
 Los Datos de Seguridad pueden obtenerse en Espanol si lo requiere.

<b>Product Name:</b>	Alex Fast Dry Acrylic Latex Caulk Plus Silicone	<b>Revision Date:</b>	6/19/2015
<b>Product UPC Number:</b>	05892 11425 18425 18428	<b>Supersedes Date:</b>	New SDS
<b>Product Use/Class:</b>	Caulking Compound	<b>SDS No:</b>	00010013001
<b>Manufacturer:</b>	DAP Products Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non - emergency matters)		
<b>Preparer:</b>	Regulatory Department		

## 2. Hazards Identification

**EMERGENCY OVERVIEW:** Under normal use conditions, this product is not expected to cause adverse health effects.

### GHS Classification

Not a hazardous substance or mixture.

### Symbol(s) of Product

None

### Signal Word

Not a hazardous substance or mixture.

## 3. Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Wt. %</u>	<u>GHS Symbols</u>	<u>GHS Statements</u>
Limestone	1317-65-3	50-75	GHS03	H270
Petroleum distillates	64741-88-4	1.0-2.5	GHS03-GHS06	H270-331

Diethylene glycol dibenzoate	120-55-8	1.0-2.5	GHS03-GHS07	H270-312
Titanium dioxide	13463-67-7	0.1-1.0	No Information	No Information
Quartz	14808-60-7	0.1-1.0	GHS03-GHS07	H270-302

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

#### 4. First-aid Measures

**FIRST AID - INHALATION:** Material is not likely to present an inhalation hazard at ambient conditions. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

**FIRST AID - SKIN CONTACT:** No health hazards are known to exist. In case of contact, wash skin immediately with soap and water.

**FIRST AID - EYE CONTACT:** In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

**FIRST AID - INGESTION:** If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

#### 5. Fire-fighting Measures

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** 465 <undefined>

**SPECIAL FIREFIGHTING PROCEDURES:** Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

**EXTINGUISHING MEDIA:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

#### 6. Accidental Release Measures

**ENVIRONMENTAL MEASURES:** No Information

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers. Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

#### 7. Handling and Storage

**HANDLING:** KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Wash thoroughly after handling.

**STORAGE:** Avoid excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

#### 8. Exposure Controls/Personal Protection

##### Ingredients with Occupational Exposure Limits

<u>Chemical Name</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH-TLV STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA PEL-CEILING</u>
Limestone	N.E.	N.E.	15 mg/m <sup>3</sup> TWA total dust, 5 mg/m <sup>3</sup> TWA respirable fraction	N.E.
Petroleum distillates	N.E.	N.E.	N.E.	N.E.
Diethylene glycol dibenzoate	N.E.	N.E.	N.E.	N.E.
Titanium dioxide	10 mg/m <sup>3</sup> TWA	N.E.	15 mg/m <sup>3</sup> TWA total dust	N.E.
Quartz	0.025 mg/m <sup>3</sup> TWA respirable fraction	N.E.	N.E.	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation  
Sk = Skin Sensitizer N.E. = Not Established

### Personal Protection



**RESPIRATORY PROTECTION:** No personal respiratory protective equipment normally required. National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m<sup>3</sup>) as determined by a full shift sample up to 10-hour work shift.



**SKIN PROTECTION:** Rubber gloves.



**EYE PROTECTION:** Goggles or safety glasses with side shields.



**OTHER PROTECTIVE EQUIPMENT:** Not required under normal use.



**HYGIENIC PRACTICES:** Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

## 9. Physical and Chemical Properties

<b>Appearance:</b>	White to Off-White	<b>Physical State:</b>	Paste
<b>Odor:</b>	Very Slight Ammonia	<b>Odor Threshold:</b>	Not Established
<b>Density, g/cm<sup>3</sup>:</b>	1.67 - 1.67	<b>pH:</b>	Between 7.0 and 12.0
<b>Freeze Point, °C:</b>	Not Established	<b>Viscosity (mPa.s):</b>	Not Established
<b>Solubility in Water:</b>	Not Established	<b>Partition Coeff., n-octanol/water:</b>	Not Established
<b>Decomposition Temperature, °C:</b>	Not Established	<b>Explosive Limits, %:</b>	N.I. - N.I.
<b>Boiling Range, °C:</b>	N.I. - N.I.	<b>Auto-Ignition Temperature, °C</b>	Not Established
<b>Minimum Flash Point, °C:</b>	93.3	<b>Vapor Pressure, mmHg:</b>	No Information
<b>Evaporation Rate:</b>	Slower Than n-Butyl Acetate	<b>Flash Method:</b>	Seta Closed Cup
<b>Vapor Density:</b>	Heavier Than Air	<b>Flammability:</b>	No Information
<b>Combustibility:</b>	Does not support combustion		

(See "Other information" Section for abbreviation legend)

(If product is an aerosol, the flash point stated above is that of the propellant.)

## 10. Stability and Reactivity

**STABILITY:** Stable under recommended storage conditions.

**CONDITIONS TO AVOID:** Excessive heat and freezing.

**INCOMPATIBILITY:** Incompatible with strong bases and oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Normal decomposition products, i.e., CO<sub>x</sub>, NO<sub>x</sub>.

## 11. Toxicological Information

**EFFECT OF OVEREXPOSURE - INHALATION:** Under normal use conditions, this product is not expected to cause adverse health effects. Inhalation of vapors in high concentration may cause mild irritation of respiratory system (nose, mouth, mucous membranes).

**EFFECT OF OVEREXPOSURE - SKIN CONTACT:** Under normal use conditions, this product is not expected to cause adverse

health effects. Prolonged or repeated contact with skin may cause mild irritation.

**EFFECT OF OVEREXPOSURE - EYE CONTACT:** Under normal use conditions, this product is not expected to cause adverse health effects. Direct eye contact may cause irritation.

**EFFECT OF OVEREXPOSURE - INGESTION:** Under normal use conditions, this product is not expected to cause adverse health effects. Single dose oral toxicity is very low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may cause injury.

**CARCINOGENICITY:** No Information

**EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS:** Repeated or prolonged exposure may cause irritation of eyes and skin. The International Agency for Research on Cancer (IARC) has determined that crystalline silica in the form of quartz or cristobalite that is inhaled from occupational sources is carcinogenic to humans (Group 1- carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. The National Toxicology Program (NTP) classifies respirable crystalline silica as "known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (Group A2). Breathing dust containing respirable crystalline silica may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects: Excessive inhalation of respirable dust can cause pneumoconiosis, a respiratory disease, which can result in delayed, progressive, disabling and sometimes fatal lung injury. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Smoking exacerbates this disease. Individuals with pneumoconiosis are predisposed to develop tuberculosis. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease.

**PRIMARY ROUTE(S) OF ENTRY:** Inhalation, Skin Contact

#### Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
1317-65-3	Limestone	6450 mg/kg Rat	>2000 mg/kg	>20 mg/L
64741-88-4	Petroleum distillates	>5000 mg/kg Rat	>2000 mg/kg Rabbit	2.18 mg/L Rat
120-55-8	Diethylene glycol dibenzoate	2830 mg/kg Rat	2000 mg/kg Rabbit	> 200 mg/L Rat
13463-67-7	Titanium dioxide	>10000 mg/kg Rat	>5000 mg/kg Rabbit	>20 mg/L
14808-60-7	Quartz	500 mg/kg Rat	>2000 mg/kg	>20 mg/L

N.I. = No Information

## 12. Ecological Information

**ECOLOGICAL INFORMATION:** Ecological injuries are not known or expected under normal use.

## 13. Disposal Information

**DISPOSAL INFORMATION:** This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

## 14. Transport Information

**SPECIAL TRANSPORT PRECAUTIONS:** No Information

DOT UN/NA Number: N.A.  
 DOT Proper Shipping Name: Not Regulated.  
 DOT Technical Name: N.A.  
 DOT Hazard Class: N.A.  
 Hazard SubClass: No Information  
 Packing Group: N.A.

**15. Regulatory Information**

**U.S. Federal Regulations:**

**CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

**SARA SECTION 313:**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

**TOXIC SUBSTANCES CONTROL ACT:**

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

**CALIFORNIA PROPOSITION 65 CARCINOGENS AND REPRODUCTIONAL TOXINS**

CALIFORNIA PROPOSITION 65: No Information

**International Regulations: As follows -**

**CANADIAN WHMIS:**

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class Consumer Commodity

**16. Other Information**

Revision Date: 6/19/2015 Supersedes Date: New MSDS

Reason for revision: HazCom2012/GHS Conversion

Datasheet produced by: Regulatory Department

**HMS Ratings:**

Health:	1	Flammability:	0	Reactivity:	0	Personal Protection:	X
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VOC Less Water Less Exempt Solvent, g/L:39.2

VOC Material, g/L:28

VOC as Defined by California Consumer Product Regulation, Wt/Wt%:0.6

**Text for GHS Hazard Statements shown in Section 3 describing each ingredient:**

H270	May cause or intensify fire; oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.

**Icons for GHS Pictograms shown in Section 3 describing each ingredient:**

GHS03



GHS06



GHS07



Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.



# 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.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	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.

<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 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.
<b>Response</b>	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.
<b>Storage</b>	Store locked up. Store in a well-ventilated place. Keep container tightly closed. 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	%
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

<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. 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.

<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.

## 5. Fire-fighting measures

<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 feedingstuffs. 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

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

Components	Type	Value
Toluene (CAS 108-88-3)		610 ppm
	TWA	350 mg/m3
		120 ppm
	STEL	560 mg/m3
Xylene (o, m, p isomers) (CAS 1330-20-7)		150 ppm
	TWA	375 mg/m3
		100 ppm
	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

**Biological limit values**

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.7 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</i> sp.) 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 (Pimephales promelas)	> 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 (Daphnia magna)	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4 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
Toluene (CAS 108-88-3)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	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 (Oncorhynchus mykiss)	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

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

### IATA

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

### IMDG

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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

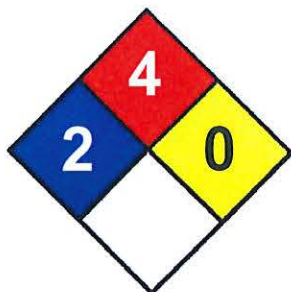
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory 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: ACQUIRE 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

## 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 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 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 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 (CO<sub>2</sub>).

DIESEL FUELS

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Prepared by 3E Company

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<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

<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). 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.
<b>Environmental precautions</b>	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

<b>Precautions for safe handling</b>	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.
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**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	
	TWA	10 ppm	
n-Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
n-Hexane (CAS 110-54-3)	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
	Ceiling	1800 mg/m3 440 ppm
n-Heptane (CAS 142-82-5)	TWA	350 mg/m3 85 ppm
	TWA	180 mg/m3 50 ppm
n-Hexane (CAS 110-54-3)	TWA	1050 mg/m3 200 ppm
	Ceiling	1800 mg/m3
Octane (All isomers) (CAS 111-65-9)	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-Hexanedion, without hydrolysis	Urine	*
	0.4 mg/l	2,5-Hexanedion, 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.
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Components	Species	Test Results
Fuels, diesel, no. 2 (CAS 68476-34-6)		
Acute Inhalation 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**

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

**IATA**

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

**IMDG**

UN number UN1202  
 UN proper shipping name DIESEL FUEL  
 Transport hazard class(es)  
 Class 3  
 Subsidiary risk -  
 Label(s) 3  
 Packing group III  
 Environmental hazards  
 Marine pollutant Yes  
 EmS F-E, S-E  
 Special precautions for user Read safety instructions, SDS and emergency procedures before handling.  
 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not 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)**

**Hazard categories** Immediate Hazard - No  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
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**

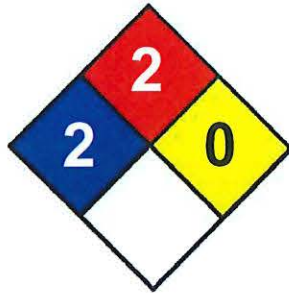
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory 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.



Smith-Cooper International  
 2867 Vail Avenue  
 Commerce, CA 90040  
 Phone: +1 (800) 766-0076  
 Fax: +1 (323) 890-4456

# SAFETY DATA SHEET

Last Updated: 04/17/2018

Section 1		IDENTIFICATION
<b>ThreadFit® Cutting Oil, Clear</b>		
<u>Manufacturer Information</u> Smith-Cooper International 2867 Vail Avenue Commerce, CA 90040 Phone: +1 (800) 766-0076 Fax: +1 (323) 890-4456		<u>Emergency Contact</u> CHEMTREC 1300 Wilson Boulevard Arlington, VA 22209-2380 Phone: +1 (800) 424-9300 International: +1 (703) 527-3887
<b>Product Use</b>	Cutting Oil	
Section 2		HAZARDS IDENTIFICATION
<b>Hazard Classification</b>	This product is not classified as hazardous according to 29 CFR 1910, amended to conform to the United Nations Global Harmonized System of Classification and Labeling of Chemicals (OSHA/GHS).	
<b>Hazard Not Otherwise Classified</b>	None as defined under 29 CFR 1910	
<b>Hazard Statements</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP or OSHA. This material should not be used for any other purpose than the intended use in Section 1 without expert advice.	
<b>Precautionary Statements</b>	No hazards resulting from the material as supplied. Health injuries are not known or expected under normal use. Excessive exposure may result in eye, skin or respiratory irritation.	
<b>Potential Health Effects</b>	<b>Routes of Exposure:</b> Ingestion, Skin Contact, Eye Contact, Inhalation <b>Eyes:</b> Exposure may cause irritation <b>Skin:</b> Prolonged or excessive skin contact may cause mild skin irritation <b>Inhalation:</b> Prolonged or excessive inhalation may cause respiratory tract irritation <b>Ingestion:</b> No significant adverse effects are expected upon ingestion of this product. Small amounts (a tablespoon) swallowed during normal handling operations are not likely to cause injury; swallowing larger amounts than that may cause injury. <b>Signs and Symptoms:</b> May cause eye/skin irritation. Inhalation of vapors in high concentrations may cause irritation of respiratory systems.	
<b>Response</b>	In the case of fire, refer to section 5. In the case of spill, refer to section 6 In the case where first aid is required, refer to section 4.	
<b>Storage</b>	Keep in a dry, cool well-ventilated place. Keep away from heat, sparks and open flame. Use care in handling/storage. Keep container closed when not in use. Do not store in unlabelled containers.	
<b>Empty Container Warning</b>	Empty containers may contain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION. Empty containers should be disposed of in accordance with all Federal, state and local regulations. Consider recycling where practical.	

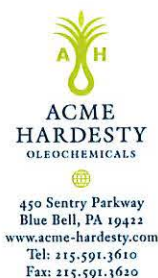
Section 3		COMPOSITION/INFORMATION ON INGREDIENTS
Component Name	CAS Number	Weight %
Severely Hydrotreated Base Oil	64742-54-7	40-60
Hydrotreated Heavy Naphthenic	64742-52-5	20-30
Section 4		FIRST AID MEASURES
<b>Inhalation</b>	No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If symptoms are experienced, remove source of contamination or move victim to fresh air.	
<b>Skin</b>	Wash contact area with soap and water. Get medical attention if irritation develops or persists.	
<b>Eye</b>	Flush eyes with water as a precaution. Get medical attention if irritation develops or persists.	
<b>Ingestion</b>	Have victim rinse mouth thoroughly with water. Drink water as a precaution. Do not induce vomiting without medical advice. If ingestion of a large amount does occur, seek medical attention.	
<b>Symptoms</b>	May cause eye/skin irritation. Inhalation of vapors in high concentration may cause irritation of the respiratory system.	
<b>General Advice</b>	No hazards which require special first aid. Not expected to be toxic. Seek medical attention if ill effects develop.	
Section 5		FIRE FIGHTING MEASURES
<b>Flash Point, ASTM D-92</b>	Greater than 182.2 °C	
<b>Extinguishing Media</b>	Use water fog, foam, dry chemical or carbon dioxide.	
<b>Special Firefighting Procedures/Equipment</b>	Wear suitable protective gear. In the event of fire, wear self-contained breathing apparatus. Use MSHA/NIOSH (approved or equivalent).	
<b>Unusual Fire and Explosion Hazards</b>	None special. Irritating and/or toxic gases may be emitted upon the products decomposition.	
<b>Additional Information</b>	Do not scatter spilled material with high pressure water streams.	
Section 6		ACCIDENTAL RELEASE MEASURES
<b>Personal Precautions</b>	Keep unnecessary personnel away. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.	
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Notify appropriate authorities if necessary.	
<b>Methods and Materials Use for Containment</b>	Eliminate all ignition sources (NO SMOKING, FLARES, SPARKS OR FLAMES IN THE IMMEDIATE AREA). Stop leak if you can do so without risk. Dike the spilled material where this is possible. Do not allow to enter sewers and waterways.	
<b>Methods for Clean Up</b>	For larger spills, absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Do not allow the spill to enter sewers or waterways. For small spills, wipe with an absorbent material. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.	
Section 7		HANDLING AND STORAGE
<b>Handling</b>	Do not handle or store near open flames, sources of heat or sources of ignition. Protect material from direct sunlight. Do not get this material in contact with skin or eyes. Handle open container with care. Avoid breathing vapors or mists of this product.	
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Use care in handling/storage. Keep container closed when not in use.	

Section 8		EXPOSURE CONTROLS/ PERSONAL PROTECTION	
<b>Exposure Guidelines</b>			
<b>Components</b>	<b>CAS-No.</b>	<b>Type</b>	<b>Value</b>
Severely hydrotreated base oil	64742-54-7	ACGIH TLV	5 mg/m <sup>3</sup>
Hydrotreated Heavy Naphthenic	64742-52-5	ACGIH TLV	5 mg/m <sup>3</sup>
<b>Engineering Controls</b>	Provide local and general exhaust to effectively remove and prevent buildup of any vapors or mists generated for the handling or use of this product.		
<b>Personal Protection</b>	Eye/Face Protection: Wear chemical goggles. If splashes occur, wear face shield		
	Skin Protection: Wear suitable protective clothing including oil impervious gloves		
<b>General Measures</b>	Respiratory Protection: No personal respiratory protective equipment normally required. If mist is generated (heating or spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.		
	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothes and protective equipment to remove contaminants. Practice good housekeeping.		
Section 9		PHYSICAL AND CHEMICAL PROPERTIES	
<b>Appearance: Light amber liquid</b>		<b>Evaporation Rate: Not Determined</b>	
<b>Odor: Typical sulfurized oil odor</b>		<b>DMSO Extract (mineral oil only, IP-346 &lt;3 % wt</b>	
<b>Odor Threshold: Not Available</b>		<b>Upper/lower Flammability LEL 0.9 UEL 7.0</b>	
<b>pH: Not Applicable</b>		<b>Vapor Pressure: &lt;0.013 kPa (0.1 mm hG) at 20 °C</b>	
<b>Melting Point/Freezing Point: 0 °F</b>		<b>Vapor Density: (air=1) &gt;2 at 101 kPa</b>	
<b>Boiling Point and Boiling Range: &gt; 600 °F</b>		<b>Relative Density: 0.8735 specific gravity</b>	
<b>Flash Point: &gt; 182.2 °C</b>		<b>Solubility: Negligible</b>	
<b>Partition Coefficient: &gt; 3.5</b>		<b>Auto-Ignition Temperature: Not Determined</b>	
<b>Decomposition Temperature: Not Determined</b>		<b>Viscosity: approximately 35 cSt @ 40 °C</b>	
<b>VOC Content: 2.0 g/L</b>			
Section 10		STABILITY AND REACTIVITY	
<b>Reactivity</b>	See sub-sections below.		
<b>Chemical Stability</b>	Material is stable under normal conditions.		
<b>Possibility of Hazardous Reactions</b>	Will not occur.		
<b>Conditions to Avoid</b>	Heat, flames and sparks. None known. Avoid temperatures exceeding the flash point. This product may react with strong oxidizing agents.		

<b>Hazardous Decomposition</b>	Carbon oxides and sulfur oxides
<b>Section 11 TOXICOLOGICAL INFORMATION</b>	
<b>Ingestion Toxicity</b>	Minimally toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
<b>Skin Toxicity</b>	Minimally toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
<b>Eye Irritation</b>	May cause mild, short-lasting discomfort to eyes. Based on test data structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
<b>Respiratory Irritation</b>	Minimally toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
<b>Chronic Toxicity</b>	No data available
<b>Carcinogenicity</b>	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451 453
<b>Other</b>	For the product itself: Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests.
<b>Section 12 ECOLOGICAL INFORMATION</b>	
<b>Ecotoxicity</b>	Material not expected to be harmful to aquatic organisms.
<b>Degradability</b>	Biodegradation: Material – Expected to be inherently biodegradable
<b>Other</b>	Ecological injuries are not known or expected under normal use. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal
<b>Section 13 DISPOSAL CONSIDERATIONS</b>	
<b>Waste Disposal Method</b>	Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix oils with solvents, brake fluids or coolants. RCRA Information. The unused product 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 waste. However, after use it is the responsibility of the user to determine the products status for disposal.
<b>Section 14 TRANSPORT INFORMATION</b>	
<b>UN Number</b>	Not Regulated for Land Transport
<b>UN Proper Shipping Name</b>	Not Applicable
<b>Transport Hazard Class</b>	Not Regulated for Land Transport
<b>Canadian Transportation of Dangerous Goods</b>	Not Regulated for Land Transport
<b>Marine Pollutants</b>	Not regulated for Sea Transport according to IMDG-Code Marine Pollutant: No

<b>Air (IATA)</b>	Not regulated for Air Transport.
<b>Section 15</b> <span style="float: right;"><b>REGULATORY INFORMATION</b></span>	
<b>TSCA Status</b>	All components are on the U. S. EPA TSCA Inventory list.
<b>SARA 311/312 Reportable Hazard Categories</b>	None Listed
<b>California Prop 65</b>	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. 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.
<b>WHMIS DSL Status (Canada)</b>	Not controlled
<b>Section 16</b> <span style="float: right;"><b>OTHER INFORMATION</b></span>	
<b>Additional Information</b>	<b>HMIS ratings:</b> Health = 1, Flammability = 1, Physical Hazard = 0, Personal Protection = B  <b>NFPA ratings:</b> <b>Health = 1, Flammability = 1, Instability = 0</b>
	There are no Red List materials included in this product.
<b>Prepared By</b>	Human Resource Department
<b>Revised Date</b>	June 1, 2015
<b>Disclaimer</b>	Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, <b>Smith-Cooper International</b> makes no representations as to the completeness or accuracy thereof. <b>Smith-Cooper International</b> makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose since the conditions of use are beyond our control. <b>Smith-Cooper International</b> no responsibility for injury to recipient or to third persons for any damage to any property and recipient.

# Material Safety Data Sheet



PRODUCT NAME: PROPYLENE GLYCOL USP KOSHER

## CHEMICAL PRODUCT AND DISTRIBUTOR IDENTIFICATION

TRADE NAME: PROPYLENE GLYCOL USP KOSHER  
CAS#: 57-55-6  
DATE: December 2, 2009

DISTRIBUTOR: ACME-HARDESTY COMPANY  
ADDRESS: 450 Sentry Parkway  
Blue Bell, PA 19422

TELEPHONE: (866) 226-3834  
FAX: (215) 591 - 3620  
EMERGENCY: CHEMTREC (800) 424-9300

## COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	%	TWAEV / TLV	LD50	(mg/kg)	LC <sub>50</sub> ppm
		ppm / mg/m <sup>3</sup>	ORAL	SKIN	INHALATION
1,2dihydroxypropane	57-55-6	not listed	18,500	20,800	not known

## HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CANADA – WHMIS: Not controlled under WHMIS

U.S.A. – HMIS: Health 0  
Fire: 1  
Reactivity: 0

## PHYSICAL/CHEMICAL CHARACTERISTICS

ODOR & APPEARANCE: Clear, colorless, odorless, viscous, hygroscopic liquid  
ODOR: Threshold not known odorless  
VAPOR PRESSURE: 0.08mmHg / 0.011kPa (20°C / 68°F)  
EVAPORATION RATE (Butyl Acetate = 1): 0.01  
VAPOR DENSITY (AIR = 1): 2.5  
BOILING RANGE: 188°C / 370°F  
FREEZING POINT: -60°C / -76°F – super cools readily  
SPECIFIC GRAVITY: 1.037 (20/20°C)  
WATER SOLUBILITY: Complete  
ALSO SOLUBLE IN: All polar organic solvents and benzene  
Limited solubility in aliphatic hydrocarbons  
VISCOSITY: 56 Centipoise (20°C / 68°F)  
pH: None – (does not liberate hydrogen ions when dissolved)  
MOLECULAR WEIGHT: 76 grams per mole

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FIRE & EXPLOSION HAZARD DATA

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FLASH POINT: Above 99°C / 210°F (closed cup)  
AUTO-IGNITION TEMP: 371°C / 700°F  
FLAMMABLE LIMIT, %: 2.6 – 12.5  
COMBUSTION PRODUCTS: Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments  
FIRE FIGHTING PRECAUTIONS: Foam, dry chemical, water fog, water spray; Fire fighters must wear SCBA  
STATIC CHARGE ACCUMULATION: Cannot accumulate a static charge on agitation or pumping

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FIRST AID MEASURES

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INGESTION: Give plenty of water to dilute product.  
Do not induce vomiting (NOTE below).  
Keep victim quiet.  
If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material.  
Seek medical help promptly.

EYE CONTACT: Wash eyes with plenty of water, holding eyelids open.  
Seek medical assistance promptly if there is irritation.

SKIN CONTACT: Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

INHALATION: Remove from contaminated area promptly.  
**CAUTION: Rescuer must not endanger himself!**  
If breathing stops, administer artificial respiration and seek medical aid promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs.  
The danger of this is greater than the risk of poisoning through absorption of this relatively low toxicity substance.  
The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

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ACCIDENTAL RELEASE MEASURES

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LEAK PRECAUTION: Dyke to control spillage and prevent environmental contamination  
HANDLING SPILL: Recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep, shovel and store in closed containers for recycling or disposal.

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STABILITY/REACTIVITY DATA

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DANGEROUS REACTIONS: Strong oxidizing agents  
ADDITIONAL DANGEROUS REACTIONS: Attacks polyvinyl chloride; elastomers like Dacron & epoxy are attacked >95°C  
STABILITY/POLYMERIZATION: Stable; will not polymerize  
DECOMPOSITION PRESENCE: Not known  
DECOMPOSITION PRODUCTS: None apart from Hazardous Combustion Products  
MECHANICAL IMPACT SENSITIVITY: No

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HEALTH HAZARD DATA

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ACUTE EXPOSURE EFFECTS:

SKIN CONTACT:	Little to no effect
SKIN ABSORPTION:	Slight; no toxic effects likely by this route
EYE CONTACT:	Little to no effect
INHALATION:	Strongly heated liquid may create sufficient vapor to irritate;
INGESTION:	Little to no effect; also little effect in experimental long-term inhalation studies

CHRONIC EXPOSURE EFFECTS:

GENERAL:	Prolonged skin exposure has caused irritation in 16% of dermatitis patients. Irritation seen in normal people appears to have been caused by local osmotic dehydration of skin which disappeared rapidly after product removed.
SENSITIZING:	NOT A SENSITIZER IN HUMANS OR ANIMALS
CARCINOGEN/TUMORIGEN:	Not considered a tumorigen or a carcinogen in humans or animals
REPRODUCTIVE EFFECT:	No known effect in humans or animals
MUTAGEN:	No known effect on humans or animals
SYNERGISTIC WITH:	Not known

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HANDLING AND STORAGE

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STORAGE:	Store in a dry environment, away from open flame and oxidizing agents. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.  If product is heated above 100°C (212°F), do not breathe the vapor. Never cut, drill, weld or grind on or near this container. Wash work clothes frequently. An eye bath and safety shower should be available near the workplace.
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EXPOSURE CONTROLS / PERSONAL PROTECTION

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STEL:	Not listed
VENTILATION:	No special ventilation required
HANDS:	No special protective gloves required
EYES:	Safety glasses with side shields – <i>always protect the eyes</i>
CLOTHING:	No special protective clothing required

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TOXICOLOGICAL INFORMATION

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LD<sub>50</sub> (oral) 20,000mg/kg (rat),  
22,000mg/kg (mouse & dog),  
18,500mg/kg (rabbit & guinea pig)  
LD<sub>50</sub> (skin) 20,800mg/kg (rabbit)  
LC<sub>50</sub> (inhalation) not known

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ECOLOGICAL INFORMATION

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BIOACCUMULATION:	This product is not a bio-accumulator – biological half-life is less than 3 hours
BIODEGRADATION:	This product degrades readily in the presence of oxygen with 78% biodegradation in 40 days
ABIOTIC DEGRADATION:	This product reacts with atmospheric hydroxyl radicals; Its estimated half-life in air is 32 hours
MOBILITY IN SOIL, WATER:	This product is water soluble and moves readily in soil and water.



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REGULATORY INFORMATION (Cont'd)

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ATMOSPHERIC STANDARDS:

This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI).

The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements.

Propylene glycol is produced, as an intermediate or a final product, by process units covered under this sub-part.

STATE DRINKING WATER GUIDELINES: New Hampshire 140,000 ug/l

FIFRA REQUIREMENTS:

As the federal pesticide law FIFRA directs, EPA is conducting a comprehensive review of older pesticides to consider their health and environmental effects and make decisions about their future use.

Under this pesticide re-registration program, EPA examines health and safety data for pesticide active ingredients initially registered before November 1, 1984, and determines whether they are eligible for re-registration.

In addition, all pesticides must meet the new safety standard of the Food Quality Protection Act of 1996.

Pesticides for which EPA had not issued Registration Standards prior to the effective date of FIFRA, as amended in 1988, were divided into three lists based upon their potential for human exposure and other factors, with List B containing pesticides of greater concern and List D pesticides of less concern.

Propylene glycol is found on List C. Case No: 3126; Pesticide type: insecticide, fungicide, anti-microbial; Case Status: OPP is reviewing data from the pesticide's producers regarding its human health and/or environmental effects, or OPP is determining the pesticide's eligibility for re-registration and developing the Re-registration Eligibility Decision document.;

Active ingredient (AI): Propylene glycol; Data Call-in (DCI) Date(s): 08/02/93; AI Status: The producers of the pesticide has made commitments to conduct the studies and pay the fees required for re-registration, and are meeting those commitments in a timely manner.

FDA REQUIREMENTS:

Substance added directly to human food affirmed as generally recognized as safe.

Propylene glycol used in animal drugs, feeds, and related products is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

Propylene glycol used in animal drugs, feeds, and related products is generally recognized as safe (except in cat food) when used in accordance with good manufacturing or feeding practice.

Drug products containing certain active ingredients offered over the counter (OTC) for certain uses.

Propylene glycol is included in pediculicide drug products.

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OTHER INFORMATION

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CANADA – WHMIS: Not controlled under WHMIS

KEY: B 2 – Flash Point <38°C,  
B 3 – Flash Point >38°C & <93°C  
D 1 – Immediately Toxic,  
D 2 – Chronic Toxicity  
C – Oxidizing Substance,  
E – D Corrosive

U.S.A. – HMIS: Health – 0, Fire – 1, Reactivity – 0

KEY: 0 = Minimal  
1 = Slight  
2 = Moderate  
3 = Serious  
4 = Severe

The data herein are based on our current knowledge and believed to be reliable. Acme-Hardesty Co., provides this information without any representation or warranty, expressed or implied, regarding its accuracy or correctness.

Users must make their own determination that handling, storage and use of the product in the anticipated manner is safe and appropriate. Because these actions of the user are out of our control, and may be beyond our knowledge, we do not assume responsibility and expressly disclaim liability for loss, damage, expense or any other claim arising out of or in any way connected with the handling, storage, use or disposal of the product.

Disposal of containers must comply with applicable federal, state and local laws and regulations. Empty containers should never be given to individuals.



## Safety Data Sheet

**SDS ID: Stock Code POW**

**Revision date:** April 27, 2017

### Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Power Seal Plus - Thread Sealing Compound with PTFE

**Synonyms:** None

**Chemical family:** Alkaline Earth Carbonate and PTFE mixture

**Producer:** J.C. Whitlam Manufacturing Company

200 West Walnut Street

P.O. Box 380

Wadsworth, Ohio 44282-0380

[www.jcwhitlam.com](http://www.jcwhitlam.com)

**Telephone:** 330-334-2524 Available during normal business hours

**Emergency:** CHEMTEL 800-255-3924 Available 24 hours

### Section 2. HAZARDS IDENTIFICATION

**GHS Classification in accordance with 29 CFR 1910.1200**

Skin Corrosion/Irritation, *Category 3*

Eye Damage/Irritation, *Category 2B*

Hazardous to the aquatic environment, acute hazard, *Category 3*

**Signal Word and Hazard statements**

**Warning** — Causes mild skin irritation H316

Causes eye irritation H320

Harmful to aquatic life H402



**Precautionary Statements**

P332 + P313 If skin or eye irritation occurs: Get medical advice/attention

P305+P338 If in eyes, check for and remove any contact lenses if present and easy to do so.

P351 Rinse eyes cautiously with tepid water for several minutes.

P337 If eye irritation persists, continue rinsing.

P273 Avoid release to the environment – if this is not the intended use.

P501 Dispose of contents in accordance with Federal, State, Provincial, and local regulations

**Inhalation:** Not applicable

**Ingestion:** Unlikely to be toxic by ingestion. Provide first aid (see Section 4)

**Skin contact:** P264 Wash hands thoroughly after handling. May cause mechanical irritation from prolonged or repeated contact.

**Eye contact:** May cause mechanical eye irritation.

**Carcinogenic:** Titanium dioxide is listed by the IARC as group 2B, see Section 11.

### Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Material information:**

Name	CAS No.	Weight %
Limestone	1317-65-3	17-23
Dolomitic limestone (Magnesite)	471-34-1 and 546-93-0	17-23
Talc	14807-96-6	8-13
Wollastonite	13983-17-0	8-13
Titanium dioxide	13463-67-7	<5
Zinc oxide	1314-13-2	<5
PTFE (Teflon®)	9002-84-0	<5
Non-hazardous ingredients	Not Applicable	13-47

*\*Note: The above weight percentages are represented in ranges as estimates. Due to variation among production batches, component percentages may vary.*

### Section 4. FIRST AID MEASURES

**General Advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of the dangerous area.

**Inhalation:** Move exposed persons to fresh air. If the person is not breathing or breathing is irregular, provide artificial respiration or oxygen by trained personnel. Consult a physician.

**Skin contact:** Remove contaminated clothing and shoes. Wash affected skin with soap and water. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.

**Ingestion:** Unlikely to be toxic by ingestion. Do not induce vomiting. Never give anything by mouth to an unconscious person. If conscious and alert, rinse the mouth with water. Call a physician or poison control center immediately.

**Eye contact:** P305+P338 If in eyes, check for and remove any contact lenses if present and easy to do so. P351 Rinse eyes cautiously with tepid water for several minutes. P337+313 If eye irritation persists, continue rinsing and get medical advice/attention.

### Section 5. FIREFIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Use water spray, foam, carbon dioxide, or dry chemical. Water or foam may cause frothing of materials heated above 212°F.
<b>Specific hazards:</b>	None
<b>Advice for Firefighters:</b>	Full protective equipment including self-contained breathing apparatus should be used. Do not allow run-off from fire-fighting to enter drains or water courses.

	NFPA rating:	HMIS rating:
Health:	1	1
Flammability:	0	0
Instability/reactivity:	0	0
Other:	N/A	B (PPE)



<b>Hazardous</b>
<b>FP - above 200 F</b>
<b>Stable</b>
<b>N/A</b>

## Section 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions:</b>	Immediately contact emergency personnel. Evacuate any potentially affected area and isolate personnel from entry. Keep ignition sources away from the spill/release.
<b>Large Spill:</b>	Personnel must have appropriate training, per Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment (Section 8). Stop the spill if it can be done safely.
<b>Methods for Containment and Clean up</b>	Shut off source if possible and if safe. Prevent entry into waterways and sewers. Wipe up or absorb on suitable material. Use a shovel to put the material into a convenient waste disposal container. Keep absorbed material in closed containers for disposal. Advise applicable authorities if material has entered sewers or water courses.

## Section 7. HANDLING AND STORAGE

<b>Handling:</b>	Keep away from ignition sources. Keep containers closed when not in use. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Launder soiled clothing thoroughly before re-use.
<b>Storage:</b>	Keep all containers tightly closed when not in use. Do not store with incompatible materials. See Section 10, Stability and Reactivity.

## Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational Exposure Limits:

Name	CAS No.	ACGIH® TLV® or NIOSH REL Exposure Limits:	Federal OSHA PELs	OSHA PELs 1989 <sup>c</sup>
Limestone	1317-65-3	10 <sup>A</sup> , 3 <sup>A,D</sup>	15 <sup>A</sup> , 5 <sup>A,D</sup>	-
Dolomitic limestone (Magnesite)	471-34-1 546-93-0	10 <sup>A</sup> , 3 <sup>A,D</sup>	15 <sup>A</sup> , 5 <sup>A,D</sup>	-
Talc	14807-96-6	2 <sup>D</sup>	Not Estab.	2 <sup>D</sup>
Wollastonite	13983-17-0	Not Estab.	Not Estab.	Not Estab.
Titanium dioxide	13463-67-7	10 <sup>A</sup> , 3 <sup>A,D</sup>	15 <sup>A</sup> , 5 <sup>A,D</sup>	10 <sup>A</sup>
Zinc oxide	1314-13-2	2 <sup>D</sup> , 10 <sup>B,D</sup>	15 <sup>A</sup> , 5 <sup>A,D</sup>	10 <sup>A</sup> , 5 <sup>A,D</sup>
PTFE (Teflon®)	9002-84-0	Not Estab.	Not Estab.	Not Estab.

All exposure limits listed are 8-hour time weighted average (TWA) — except where noted otherwise.

<sup>A</sup> Time Weighted Average (TWA) is an average exposure over the course of an 8-hour work shift. As measured in milligrams particulate per cubic meter of air.

<sup>B</sup> A Short Term Exposure Limit TWA over the course of 15 minutes.

PEL — Permissible Exposure Limit is the maximum 8-hour TWA concentration of a chemical that a worker may be exposed to under Occupational Safety and Health Administration (OSHA) regulations.

<sup>C</sup> Federal OSHA 1989 PELs were vacated but are in use and enforced by many state OSHA plans.

<sup>D</sup> Respirable-size particulate.

**Engineering measures:** Local exhaust ventilation is preferable. General ventilation is acceptable if exposure to materials in this section is maintained below applicable exposure limits.

## PERSONAL PROTECTIVE EQUIPMENT

- Respiratory protection:** When engineering controls are not sufficient to reduce exposure to levels below applicable exposure limits, seek professional advice prior to respirator selection and use. Wear a properly fitted NIOSH/ MSHA-approved respirator.
- Skin and body protection:** Wear impervious clothing and rubber gloves to prevent contact. Use the manufacturer's degradation and permeation data for protective material selection.
- Eye protection:** Wear safety spectacles with unperforated sideshields.
- Hygiene measures:** Avoid repeated or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove contaminated clothing and laundry before reuse.
- Other precautions:** Not applicable

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Arctic blue paste
<b>Physical state (solid/liquid/gas):</b>	Paste
<b>Substance type (pure/mixture):</b>	Mixture
<b>Color:</b>	Blue
<b>Odor:</b>	Petroleum
<b>Molecular weight:</b>	Not available
<b>pH:</b>	Not Applicable
<b>Boiling point/range (5-95%):</b>	Not Available
<b>Melting point/range:</b>	Not Available
<b>Decomposition temperature:</b>	Not Available
<b>Specific gravity:</b>	1.69
<b>Vapor density:</b>	(AIR = 1) >1
<b>Vapor pressure:</b>	<1 mm Hg
<b>Evaporation rate (Butyl acetate= 1):</b>	<0.1
<b>Flash point, method used:</b>	350°F; 177°C
<b>Water solubility:</b>	Slight
<b>VOC Content:</b>	0 grams/liter
<b>Auto-ignition temperature:</b>	Not Available
<b>Flammable limits in air — lower (%):</b>	Not Available
<b>Flammable limits in air — upper (%):</b>	Not Available

## Section 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No data available
<b>Stability:</b>	Stable under recommended storage conditions.
<b>Possibly hazardous reactions:</b>	No data available
<b>Conditions to avoid:</b>	Extended exposures to high temperatures can cause decomposition.
<b>Incompatible Materials:</b>	Strong oxidizers, acids.
<b>Hazardous decomposition products:</b>	Carbon dioxide, carbon monoxide
<b>Polymerization:</b>	Will not occur.

## Section 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

**Product information:**

Name	CAS No.	Inhalation:	Dermal:	Oral:
Limestone	1317-65-3	No data available.	No data available.	Acute LD <sub>50</sub> (Rat):6,450 mg/kg
Zinc oxide	1314-13-2	Acute LC <sub>50</sub> (Mouse): 2,500 mg/m <sup>3</sup>	No data available.	No data available.
PTFE (Teflon®)	9002-84-0	LC <sub>50</sub> 4 hours (Rat): >6,820 mg/m <sup>3</sup>	No data available.	Acute LD <sub>50</sub> (Rat): >5,000 mg/kg

LC<sub>50</sub> — the concentration of the chemical in air that kills 50% of the test animals in a given time (usually four hours).

**Carcinogenicity:** The IARC lists titanium dioxide as group 2B; and lists PTFE (Teflon®) as group 3. No ingredient of this product present at levels greater than 0.1% is listed as a carcinogen by the NTP and OSHA.

**Reproductive toxicity:** No data available.

**Sensitization:** No data available.

## Section 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects: Limestone**  
LC<sub>50</sub> fish (not specified) 72-hour >200 mg/l.

**Titanium Dioxide**  
EC<sub>50</sub> Daphnia magna (Water flea) 48-hour >1,000 mg/l  
EC<sub>50</sub> Pseudokirchneriella subcapitata (green algae) 72-hour 61 mg/l  
LC<sub>50</sub> Pimephales promelas (fathead minnow) 96-hour >1,000 mg/l

**Titanium Dioxide**  
EC<sub>50</sub> Daphnia magna (Water flea) 48-hour 0.098 mg/l  
LC<sub>50</sub> Oncorhynchus mykiss (rainbow trout) 96-hour 1.1 mg/l

**Persistence:** No data available.

**Degradability:** No data available.

## Section 13. DISPOSAL CONSIDERATIONS

**Cleanup considerations:** Dispose this material in accordance with Federal, State, Provincial, and/or local regulations.  
The material destined for disposal must be characterized properly and may differ from the product described in this SDS if mixed with other wastes.

## Section 14. TRANSPORT INFORMATION

Please refer to DOT regulation 49 CFR 172.101:

**Transport information:** This material is not regulated under DOT when transported via U.S. commerce routes; and IATA, and IMO via international routes

**Hazardous Materials Description:** (DOT and IATA):

**UN/identification no.:** Not Applicable  
**Proper shipping name:** Not Applicable  
**Hazard class:** Not Applicable  
**Packing group:** Not Applicable  
**DOT reportable quantity (lbs.):** Not Applicable

## Section 15. REGULATORY INFORMATION

**U.S. federal regulatory information:**

**U.S. RCRA (40 CFR 261)**

This product is not a hazardous waste as defined under RCRA 40 CFR 261.

**State and community right-to-know regulations:**

*The following component(s) of this material are identified on the regulatory lists below:*

**U.S. TSCA Chemical inventory Section 8(b)**

**OSHA** — This product is determined to be hazardous as defined in the OSHA Hazard Communications Standard (29 CFR 1910.1200)

**CERCLA** Sections 102a/103 (40 FR 302.4):

No ingredients are listed.

Components of this product are listed not in the following sections of **SARA**:

SARA Title III Section 302 — N/A

SARA Title III Section 304 — N/A

SARA Title III Section 313 — This product does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21)

Acute health hazard: No  
Chronic health hazard: No  
Fire hazard: No  
Reactive Hazard: No  
Pressure Hazard: No

**California Proposition 65 Components**

This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm (quartz  $\leq 0.01\%$ ). The listing of titanium dioxide is for "airborne, unbound particles of respirable size". This listing is not applicable to titanium dioxide when it remains bound with a product matrix.

**WHMIS (Canada)**

Titanium dioxide: Class D-2A: Material causing other toxic effects.

CAS# 1317-65-3 is listed on Canada's Non-Domestic Substance List

**NOTE:** User must consult with applicable state and local agencies for special specifics, determinations or compliance obligations regarding this product.

## Section 16. OTHER INFORMATION

### Standards and Certification Listings:

The information and recommendations contained herein are based upon tests, data, and information resources believed to be reliable. However, the J.C. Whitlam Manufacturing Company, Inc., and its related operations or divisions (Whitlam) do not guarantee the accuracy or completeness, nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage may be required. Whitlam assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of this data. No warranty against infringement of any patent, copyright or trademark is made or implied.

**HAZARD COMMUNICATION SAFETY DATA SHEET  
TUF-LUBE™ COUPLING GREASE**

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**SECTION 1 – IDENTIFICATION**

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Distributor's name: Allied Rubber & Gasket Company, Inc. - ARGCO  
5816 Dryden Place #101  
Carlsbad, CA 92008  
For information call: (800) 854-1015  
Date prepared: 1/11/2016  
Product name: Tuf-Lube™ Coupling Grease  
Recommended Use: Lubrication for Grooved Coupling Gaskets

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**SECTION 2 – HAZARDS IDENTIFICATION**

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SLIGHT IRRITANT  
(SKIN AND EYE)

Non-toxic; basically non-hazardous.

OSHA Status: Contains no "hazardous chemicals" as defined by OSHA Hazard Communication Standard, 29CFR, 1910.1200

TSCA Status: All ingredients listed.

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**SECTION 3 – COMPOSITION/INGREDIENTS**

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The product contains no substances which at their given concentration, are considered to be hazardous to health.

Chemical Name	CAS-No	Weight %	Trade Secret
Proprietary Lubricity Enhancers	TSRN 0210	40-50	*
Water	7782-13-5	20-35	*
Mixed Sodium & Potassium Salts of tall oil (soap)	68606-06-4 EINECS 271-723-9	15-25	*

Where range is displayed, the exact percentage (concentration) of composition has been withheld as a trade secret.

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**SECTION 4 – FIRST AID MEASURES**

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Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation: Move to fresh air.

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

Notes to Physician: Notes to Physician Treat symptomatically.

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**SECTION 5 – FIRE FIGHTING MEASURES**

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Flammable Properties: Not Flammable  
Flash Point: 320° F / > 160° C  
Flash Point Media: Open Cup  
Suitable Extinguishing Media: Dry Powder. Carbon dioxide (CO<sub>2</sub>). Foam. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Unsuitable Extinguishing Media: Do not use a solid water stream as it may scatter and spread fire.  
Explosion Data: None  
Sensitivity to Mechanical Impact: None  
Sensitivity to Static Discharge: None  
Specific Hazards: Burning produces obnoxious and toxic fumes. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke) Halogenated compounds

Protective Equipment and Precautions for Firefighters: As in any # re, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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**SECTION 6 – ACCIDENTAL RELEASE**

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Personal Precautions: Use personal protective equipment.  
Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.  
Methods for Containment: Prevent further leakage or spillage if safe to do so.  
Methods for Cleaning Up: Take up mechanically and collect in suitable container for disposal.

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**SECTION 7 – HANDLING AND STORAGE**

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Handling: Avoid dust formation. Do not breathe vapors/dust. Wear personal protective equipment. Ensure adequate ventilation. Wash thoroughly after handling. Fine dust dispersed in air may ignite. Keep away from open flames, hot surfaces and sources of ignition.  
Storage: Keep container tightly closed in a dry and well-ventilated place.

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**SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION**

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Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

*OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. NIOSH IDLH: Immediately Dangerous to Life or Health. 2*

Other Exposure Guidelines: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).  
Engineering Measures: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment:  
 Eye/Face Protection Safety glasses with side-shields.  
 Skin and Body Protection Long sleeved clothing. Protective gloves.  
 Respiratory Protection: None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures: When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

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**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

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Appearance:	Off white	Decomposition Temperature:	No information available
Odor Threshold:	No information available	Flammability Limits in Air:	No information available
pH:	Neutral	Decomposition Temperature:	No information available
Odor:	Sweet, Corn syrup-like		
Autoignition Temperature:	> 260 °C / 500 °F		
Boiling Point/Boiling Range:	<260 °C / 500 °F		
Melting Point/Range:	149 °C / 300 °F		
Physical State:	Liquid Gel		
Flash Point:	320 °F / > =160 °C		
Flashpoint Method:	Open cup		
Water Solubility:	Insoluble in cold water, hot water		
Evaporation Rate:	No information available.		
Vapor Density:	>5 (air = 1)		

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**SECTION 10 – STABILITY AND REACTIVITY DATA**

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Stability:	Stable under recommended storage conditions. Deomposes in contact with water
Incompatible Products:	Strong oxidizing agents.
Conditions to avoid:	Dust formation. Heat, flames and sparks
Hazardous Decomposition or Byproducts:	None known.
Hazardous Polymerization:	Will not occur

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

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Acute Toxicity

Product Information	Product does not present an acute toxicity hazard based on known or supplied information
Inhalation	May cause irritation of respiratory tract.
Eye Contact	May cause slight irritation.
Skin Contact	No known effect based on information supplied
Ingestion	Not an expected route of exposure. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

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## SECTION 12 - ECOLOGICAL INFORMATION

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### Ecotoxicity

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

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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Waste Disposal Methods	Dispose of in accordance with federal, state, and local regulations
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14 - TRANSPORT INFORMATION

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DOT: Not regulated  
TDG: Not regulated  
MEX Not regulated

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## SECTION 15 - REGULATORY INFORMATION

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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 Commercial  
Chemical Substances/EU List of Notified Chemical Substances  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
AICS - Australian Inventory of Chemical Substances

### U.S. Federal Regulations

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

### SARA 311/312 Hazard Categories

Acute Health Hazard Yes  
Chronic Health Hazard Yes  
Fire Hazard No  
Sudden Release of Pressure Hazard No  
Reactive Hazard No

### Clean Water Act

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

#### CERCLA

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

#### Disclaimer

The information contained herein is accurate and reliable as of the date issued to the best of the manufacturer's knowledge. ARGCO doesn't warrant or guarantee its accuracy or reliability and shall not be liable for any loss or damage arising from the use thereof. It is the user's responsibility to satisfy itself that the information offered for its consideration is suitable for its particular use.

END OF SDS



# Safety Data Sheet

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## Section 01 Identification

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<b>Product Identifier</b>	Chlorine
<b>Other Means of Identification</b>	Liquid chlorine, chlorine gas, liquefied chlorine gas, chlor, molecular chlorine.
<b>Product Use and Restrictions on Use</b>	Used in water treatment as a disinfectant and oxidizer; production of chlorinated organic and inorganic chemicals; bleaching of paper, textiles and fabrics.
<b>Initial Supplier Identifier</b>	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK, Canada S7K 1V7  Phone: 800.387.7503 Fax: 888.281.8109 <a href="http://www.cleartech.ca">www.cleartech.ca</a>
<b>Prepared By</b>	ClearTech Industries Inc. technical writer
<b>24-Hour Emergency Phone</b>	306.664.2522

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## Section 02 Hazard Identification

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### Physical hazards

<b>Oxidizing gas</b>	Category 1
<b>Gas under pressure</b>	Liquified gas

### Health hazards

<b>Acute toxicity - inhalation</b>	Category 1
<b>Skin corrosion / irritation</b>	Category 2
<b>Serious eye damage / eye irritation</b>	Category 2
<b>Specific target organ toxicity - single exposure</b>	Category 3

### Signal word

Danger

### Hazard statements

- H270 May cause or intensify fire; oxidizer.
- H280 Contains gas under pressure; may explode if heated.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.

- H330 Fatal if inhaled.  
H335 May cause respiratory irritation.

## Pictograms



## Precautionary statements

### Prevention

- P220 Keep away from clothing and other combustible materials.  
P244 Keep valves and fittings free from oil and grease.  
P260 Do not breathe gas.  
P264 Wash affected body parts thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves, protective clothing, eye protection, face protection.  
P284 In case of inadequate ventilation wear respiratory protection.

### Response

- P303 P352 P332 IF ON SKIN (or hair): Wash with plenty of water. If skin irritation occurs: Get medical advice /  
P313 P362 P364 attention. Take off contaminated clothing and wash it before reuse.  
P304 P340 P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a  
POISON CENTER or doctor.  
P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present  
P337 P313 and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.  
P370 P376 In case of fire: Stop leak if safe to do so.

### Storage

- P403 Store in a well-ventilated place.  
P233 Keep container tightly closed.  
P405 Store locked up.  
P410 Protect from sunlight.

### Disposal

- P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

## Hazards not otherwise classified

Not available

## Supplemental Information

Not available

## Section 03 Composition / Information on Ingredients

### Hazardous ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Chlorine	Not available	7782-50-5	99.5-100%

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## Section 04 First-Aid Measures

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### Description of necessary first-aid measures

<b>Inhalation</b>	Take precautions to ensure your own safety before attempting a rescue call a POISON CENTER or doctor. If breathing has stopped, trained personnel should begin rescue breathing or if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth to mouth contact by using a barrier device. Call a POISON CENTER or doctor if you feel unwell.
<b>Ingestion</b>	Rinse mouth. Get medical advice / attention if you feel unwell or are concerned.
<b>Skin contact</b>	Avoid direct contact. Wear chemical protective clothing, if necessary. Take off contaminated clothing, shoes and leather goods. Wash with plenty of lukewarm, gently flowing water for 15 to 20 minutes. Get medical advice / attention. Wash contaminated clothing before re-use.
<b>Eye contact</b>	Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 15 to 20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice / attention.

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

<b>Inhalation</b>	Fatal if inhaled. May cause respiratory irritation. Nasal discharge, coughing, pain, nausea, vomiting, headache, dizziness, pulmonary edema, hypoxia
<b>Ingestion</b>	Not an expected route of exposure, see inhalation.
<b>Skin contact</b>	Causes skin irritation. Dermatitis, with liquid contact: frostbite.
<b>Eye contact</b>	Causes serious eye irritation. Burning and tears
<b>Further information</b>	For further information see Section 11 Toxicological Information.

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## Section 05 Fire Fighting Measures

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<b>Suitable extinguishing media</b>	Extinguish fire using extinguishing agents suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Use water with caution, as it reacts with chlorine to form highly corrosive hypochlorous acid.
<b>Specific hazards arising from the chemical</b>	Stored under pressure, may explode in the event of a fire. Oxidizing agent, may react with other chemicals, such as water and organic chemicals to generate heat or an explosion. Chlorine is heavy than air and may collect in low lying areas.
<b>Special protective equipment for fire-fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and protective clothing. It is recommended that a full body chemical resistant suit be worn.

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## Section 06 Accidental Release Measures

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<b>Personal Precautions / Protective Equipment / Emergency Procedures</b>	Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so.
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**Environmental Precautions** Prevent material from entering sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.

**Methods and Materials for Containment and Cleaning Up** LARGE SPILLS or LEAKS: Ventilate the area to prevent the gas from accumulating, especially in confined spaces. If possible, turn leaking container so that gas escapes rather than liquefied gas. Knock down gas with fog or fine water spray. Do not direct water at spill or source.  
Get expert advice before treating the spilled product with other chemicals to make it less hazardous. May be absorbed and neutralized into water solutions of caustic soda or soda ash and placed in steel, cast iron or lead containers. This disposal operation should be conducted by trained personnel only. This reaction can give off substantial amounts of heat. The caustic solution can be hazardous.

## Section 07 Handling and Storage

**Precautions for Safe Handling** Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Avoid generating gas. Prevent the release of gas into the workplace air. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Never return contaminated material to its original container. Have suitable emergency equipment for fires, spills and leaks readily available. Do not use near welding operations, flames or hot surfaces. Use only in areas with adequate ventilation. Keep all piping and equipment that comes in contact with this chemical clean and dry.

**Conditions for Safe Storage** Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible. Do not store below ground level or in confined spaces.

**Incompatibilities** Organic chemicals including wood, paper and grease. Water, ammonia and ammonia-based compounds, powdered metal, strong reducing agents.

## Section 08 Exposure Controls and Personal Protection

### Exposure limits

Component	Regulation	Type of listing	Value
Chlorine	NIOSH	REL	0.5 ppm (1.45 mg/m <sup>3</sup> )
	OSHA	PEL	1 ppm (3 mg/m <sup>3</sup> )
	ACGIH	TWA	0.5 ppm (1.45 mg/m <sup>3</sup> )
	ACGIH	STEL/Ceiling	1 ppm (3 mg/m <sup>3</sup> )

### Engineering controls

**Ventilation Requirements** Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

**Other** An emergency shower and eyewash station must be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations. It is not recommended that the safety shower be in the same room as the chlorine cylinders, due to the possibility of hazardous reactions between chlorine and water.

### Protective equipment

**Eye and face protection** Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should never be worn; they may contribute to severe eye injury.

**Hand protection** Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

**Foot protection** No special footwear is required other than what is mandated at place of work.

**Skin and body protection** Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

**Respiratory protection** Up to 5 ppm: (APF = 10) Chemical cartridge respirator  
Up to 10 ppm: (APF = 25) SAR operated in a continuous-flow mode; Powered, air-purifying respirator with cartridge(s).  
(APF = 50) Chemical cartridge respirator with a full facepiece and cartridge(s); Air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister; SCBA with a full facepiece; Full facepiece SAR.  
Emergency or planned entry into unknown concentrations or IDLH conditions: (APF = 10,000) SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode; SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA.  
Escape: (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister. Any appropriate escape-type SCBA.

**Thermal hazards** Not available

## Section 09 Physical and Chemical Properties

### Appearance

**Physical state** Compressed liquified gas  
**Colour** Green-yellow gas; amber liquid  
**Odour** Pungent  
**Odour threshold** 0.06 ppm (detection)

### Property

**pH** Not available  
**Melting point / freezing point** -101.5 °C  
**Initial boiling point and boiling range** -34.04 °C  
**Flash point** Not applicable

Evaporation rate	Not applicable (gas)
Flammability	Not flammable
Upper flammable limit	Not available
Lower flammable limit	Not available
Vapour pressure	638.4 kPa (4788 mmHg) @ 20 °C
Vapour density	2.46 @ 0 °C
Relative density	Not applicable
Solubility	Soluble in water (7 g/L)
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	Not available
Specific gravity	Not applicable
Formula	Cl <sub>2</sub>
Molecular weight	70.91 g/mol

## Section 10 Stability and Reactivity

Reactivity	Strong oxidizing agent
Stability	Stable if stored according to the precautions noted in section 07 handling and storage.
Possibility of hazardous reactions	Reacts with water to produce large amount of heat and highly corrosive hypochlorous acid.
Conditions to avoid	Heat, sunlight, contact with incompatible materials
Incompatible materials	Organic chemicals including wood, paper and grease. Water, ammonia and ammonia-based compounds, powdered metal, strong reducing agents.
Hazardous decomposition products	Hydrogen chloride gas, hypochlorous acid

## Section 11 Toxicological Information

### Acute Toxicity (LD50 values)

Component	Route	Species	Value	Exposure time
Chlorine	Inhalation	Mouse	137 ppm	1 hour
	Inhalation	Rat	260-344 ppm	1 hour

### Toxic Health Effect Summary

<b>Chemical Characteristics</b>	Chlorine readily reacts with water to form highly corrosive hypochlorous acid. This is of particular concern for inhalation as it will cause significant and sometimes fatal damage to the respiratory system.
<b>Skin</b>	May cause skin irritation. May react with water or sweat to form corrosive hypochlorous and hydrochloric acids, causing irritation and burns.
<b>Ingestion</b>	Not an expected route of exposure
<b>Inhalation</b>	May cause respiratory irritation. May be fatal if inhaled. Will readily react with all wet surfaces, such as all of the components of the respiratory system, causing irritation, pain and in some cases permanent damage or death.
<b>Eye contact</b>	Causes irritation, tears and pain.
<b>Delayed and Chronic</b>	Not considered to be a carcinogen by ACGIH. May aggravate existing lung conditions such as asthma.

## Section 12 Ecological Information

### Ecotoxicity

Component	Type	Species	Value	Exposure Time
Chlorine	LC50	Daphnia magna (Water flea)	0.063 mg/L	1 hour
	LC50	Oncorhynchus kisutch (Coho salmon)	0.208 mg/L	1 hour
	LC50	Lepomis macrochirus (Bluegill sunfish)	0.44 mg/L	96 hours

<b>Biodegradability</b>	Highly reactive, will readily degrade both in water and in the air.
<b>Bioaccumulation</b>	Not expected to bioaccumulate
<b>Mobility</b>	Volatile and water soluble, will be highly mobile in the environment.
<b>Other adverse effects</b>	Not available

## Section 13 Disposal Considerations

<b>Waste From Residues / Unused Products</b>	Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.
<b>Contaminated Packaging</b>	Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

## Section 14 Transport Information

<b>UN number</b>	UN1017
<b>UN proper shipping name</b>	CHLORINE
<b>Transport hazard class(es)</b>	2.3 (5.1) (8)
<b>Packing group</b>	Not available
<b>Excepted quantities</b>	Not available

<b>Environmental hazards</b>	Listed as a marine pollutant.
<b>Special precautions</b>	Not available
<b>Transport in bulk</b>	Not available
<b>Additional information</b>	Secure containers (full or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

## Section 15 Regulatory Information

**NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

NSF Certification: Product is certified under NSF / ANSI Standard 60 for disinfection and oxidation at a maximum dosage of 30 mg/L

NSF product use restrictions based on requirements obtained from the NSF website for current requirements.

## Section 16 Other Information

**Date of latest revision: December 19, 2018**

**Note:** The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

### **Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

### **References:**

- 1) CHEMINFO
- 2) TOXNET
- 3) eChemPortal
- 4) ECHA
- 5) Transportation of Dangerous Goods Canada
- 6) HSDB
- 7) PAN



## Safety Data Sheet

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<b>Issue Date:</b>	06/12/19	<b>Supersedes Date:</b>	07/26/18

### SECTION 1: Identification

#### 1.1. Product identifier

3M FireBarrier™ Sealant IC 15 WB+

#### Product Identification Numbers

41-3701-6823-3, 42-0016-4768-6, 42-0016-4769-4, 42-0016-4770-2, 98-0400-5509-1, 98-0400-5510-9, 98-0400-5511-7, 98-0400-5512-5, 98-0400-5630-5  
7100011413, 7000059404, 7000059405, 7010400883

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Fire Barrier Sealant.

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Industrial Adhesives and Tapes Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	1-888-3M HELPS (1-888-364-3577)

#### 1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

Reproductive Toxicity: Category 2.

#### 2.2. Label elements

##### Signal word

Warning

##### Symbols

Health Hazard |

##### Pictograms

**Hazard Statements**

Suspected of damaging fertility or the unborn child.

**Precautionary Statements****General:**

Keep out of reach of children.

**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves.

**Response:**

IF exposed or concerned: Get medical advice/attention.

**Storage:**

Store locked up.

**Disposal:**

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

### SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Calcium Carbonate	1317-65-3	30 - 60 Trade Secret *
Water	7732-18-5	10 - 30 Trade Secret *
Polymer NJTS Reg. No. 04499600-7314	Trade Secret*	10 - 30 Trade Secret *
Zinc Borate 2335	138265-88-0	3 - 7 Trade Secret *
Sodium Silicate	1344-09-8	3 - 7 Trade Secret *
2-Aminoisobutanol	124-68-5	< 0.5 Trade Secret *
Quartz Silica	14808-60-7	< 0.5 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

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

### SECTION 4: First aid measures

**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**

Wash with soap and water. If you are concerned, get medical advice.

**Eye Contact:**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**

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

**4.2. Most important symptoms and effects, both acute and delayed**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable

**SECTION 5: Fire-fighting measures**

**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

**5.2. Special hazards arising from the substance or mixture**

None inherent in this product.

**Hazardous Decomposition or By-Products**

Substance  
Carbon monoxide  
Carbon dioxide

Condition  
During Combustion  
During Combustion

**5.3. Special protective actions for fire-fighters**

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Calcium Carbonate	1317-65-3	OSHA	TWA(as total dust):15 mg/m <sup>3</sup> ;TWA(respirable fraction):5 mg/m <sup>3</sup>	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m <sup>3</sup>	A2: Suspected human carcin.
Quartz Silica	14808-60-7	OSHA	TWA Table Z-1(respirable):0.05 mg/m <sup>3</sup> ;TWA Table Z-3(respirable):0.1 mg/m <sup>3</sup>	

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

### 8.2. Exposure controls

#### 8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

#### 8.2.2. Personal protective equipment (PPE)

##### Eye/face protection

None required.

##### Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

##### Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Light yellow viscous paste with a mild odor
Odor threshold	<i>No Data Available</i>
pH	8 - 9
Melting point	<i>No Data Available</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	Flash point > 93 °C (200 °F)
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	1.4 g/cm <sup>3</sup>
Specific Gravity	1.4 [Ref Std:WATER=1]
Solubility in Water	Moderate
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Molecular weight	<i>No Data Available</i>
Volatile Organic Compounds	<=20 % weight [Test Method:tested per EPA method 24]
VOC Less H <sub>2</sub> O & Exempt Solvents	<=4 g/l [Test Method:tested per EPA method 24]

**SECTION 10: Stability and reactivity****10.1. Reactivity**

This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

None known.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

**SECTION 11: Toxicological information**

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

### 11.1. Information on Toxicological effects

#### Signs and Symptoms of Exposure

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

#### Inhalation:

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

May cause additional health effects (see below).

#### Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

#### Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

#### Ingestion:

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

May cause additional health effects (see below).

#### Additional Health Effects:

#### Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

#### Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYSTAL AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

#### Toxicological Data

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

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Polymer NJTS Reg. No. 04499600-7314	Dermal		LD50 estimated to be > 5,000 mg/kg
Polymer NJTS Reg. No. 04499600-7314	Ingestion	Rat	LD50 > 2,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 5,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l

Zinc Borate 2335	Ingestion	Rat	LD50 > 5,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
2-Aminoisobutanol	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-Aminoisobutanol	Ingestion	Rat	LD50 2,900 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7314	Rabbit	Minimal irritation
Zinc Borate 2335	Rabbit	No significant irritation
Sodium Silicate	Rabbit	Corrosive
2-Aminoisobutanol	Rabbit	Irritant
Quartz Silica	Professional judgement	No significant irritation

#### Serious Eye Damage/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7314	Professional judgement	Mild irritant
Zinc Borate 2335	Rabbit	Severe irritant
Sodium Silicate	Rabbit	Corrosive
2-Aminoisobutanol	Rabbit	Corrosive

#### Skin Sensitization

Name	Species	Value
Zinc Borate 2335	Guinea pig	Not classified
Sodium Silicate	Mouse	Not classified
2-Aminoisobutanol	Guinea pig	Not classified

#### Respiratory Sensitization

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

#### Germ Cell Mutagenicity

Name	Route	Value
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
2-Aminoisobutanol	In Vitro	Not mutagenic
2-Aminoisobutanol	In vivo	Not mutagenic
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification

#### Carcinogenicity

Name	Route	Species	Value
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Quartz Silica	Inhalation	Human and animal	Carcinogenic
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**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	prematuring & during gestation
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Sodium Silicate	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
2-Aminoisobutanol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring into lactation
2-Aminoisobutanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	37 days
2-Aminoisobutanol	Dermal	Not classified for development	Rat	NOAEL 300 mg/kg/day	during gestation
2-Aminoisobutanol	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	prematuring into lactation

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
2-Aminoisobutanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Zinc Borate 2335	Inhalation	immune system   respiratory system   heart   endocrine system   hematopoietic system   liver   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system   liver   kidney and/or bladder   heart   skin   bone, teeth, nails, and/or hair   hematopoietic system   immune	Not classified	Rat	NOAEL 375 mg/kg/day	92 days

		system   nervous system   eyes   respiratory system   vascular system				
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system   blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart   liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
2-Aminoisobutanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 23 mg/kg/day	90 days
2-Aminoisobutanol	Ingestion	blood   eyes   kidney and/or bladder	Not classified	Dog	NOAEL 2.8 mg/kg/day	1 years
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

**Aspiration Hazard**

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

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

**SECTION 12: Ecological information****Ecotoxicological information**

<u>Test Organism</u>	<u>Test Type</u>	<u>Result</u>
Water flea, Daphnia magna	48 hours Aquatic Toxicity - Acute	27 mg/l
Green algae, Pseudokirchneriella subcapitata	72 hours Aquatic Toxicity - Chronic	2.6 % weight

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

**Chemical fate information**

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

**SECTION 13: Disposal considerations****13.1. Disposal methods**

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**SECTION 14: Transport Information**

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

**SECTION 15: Regulatory information****15.1. US Federal Regulations**

Contact 3M for more information.

**EPCRA 311/312 Hazard Classifications:****Physical Hazards**

Not applicable

**Health Hazards**

Reproductive toxicity

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

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Zinc Borate 2335 (ZINC COMPOUNDS)	138265-88-0	3 - 7

**15.2. State Regulations**

Contact 3M for more information.

**15.3. Chemical Inventories**

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product complies with the New Zealand Hazardous Substances and New Organisms Act (1996).

Contact 3M for more information.

**15.4. International Regulations**

Contact 3M for more information.

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

**SECTION 16: Other information****NFPA Hazard Classification**

Health: 1 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar

emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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# SAFETY DATA SHEET

## Acetylene

### Section 1. Identification

<b>GHS product identifier</b>	: Acetylene
<b>Chemical name</b>	: acetylene
<b>Other means of identification</b>	: Ethyne; Ethine; Narcylen; C <sub>2</sub> H <sub>2</sub> ; Acetylen; UN 1001; Vinylene
<b>Product type</b>	: Gas.
<b>Product use</b>	: Synthetic/Analytical chemistry.
<b>Synonym</b>	: Ethyne; Ethine; Narcylen; C <sub>2</sub> H <sub>2</sub> ; Acetylen; UN 1001; Vinylene
<b>SDS #</b>	: 001001
<b>Supplier's details</b>	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
<b>24-hour telephone</b>	: 1-866-734-3438

### Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: 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. Store in a well-ventilated place.

##### Disposal

: Not applicable.

##### Hazards not otherwise

: In addition to any other important health or physical hazards, this product may displace

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Substance
<b>Chemical name</b>	: acetylene
<b>Other means of identification</b>	: Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene
<b>Product code</b>	: 001001

### CAS number/other identifiers

**CAS number** : 74-86-2

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

<b>Eye contact</b>	: 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.
<b>Inhalation</b>	: 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.
<b>Skin contact</b>	: 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.
<b>Ingestion</b>	: As this product is a gas, refer to the inhalation section.

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

#### Potential acute health effects

<b>Eye contact</b>	: Contact with rapidly expanding gas may cause burns or frostbite.
<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Skin contact</b>	: Contact with rapidly expanding gas may cause burns or frostbite.
<b>Frostbite</b>	: Try to warm up the frozen tissues and seek medical attention.
<b>Ingestion</b>	: As this product is a gas, refer to the inhalation section.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: No specific data.
<b>Inhalation</b>	: No specific data.
<b>Skin contact</b>	: No specific data.
<b>Ingestion</b>	: No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
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## 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 specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : 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 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. 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.

Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

**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. 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). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
acetylene	<p>NIOSH REL (United States, 10/2016).            CEIL: 2662 mg/m<sup>3</sup>            CEIL: 2500 ppm</p> <p>ACGIH TLV (United States, 3/2017). Oxygen Depletion [Asphyxiant].</p> <p>California PEL for Chemical Contaminants (Table AC-1) (United States). Oxygen Depletion [Asphyxiant].</p>

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. 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.
- Odor** : Mild. Ethereal.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : -81°C (-113.8°F)
- Boiling point** : Not available.
- Critical temperature** : 35.25°C (95.5°F)
- Flash point** : Closed cup: -18.15°C (-0.67°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.  
Highly flammable in the presence of the following materials or conditions: heat.
- Lower and upper explosive (flammable) limits** : Lower: 2.5%  
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

## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not applicable.
<b>Flow time (ISO 2431)</b>	: Not available.
<b>Molecular weight</b>	: 26.04 g/mole
<b>Aerosol product</b>	
<b>Heat of combustion</b>	: -48257522 J/kg

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 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.
<b>Incompatible materials</b>	: Oxidizers
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Hazardous polymerization</b>	: 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.

## Section 11. Toxicological information

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : No known significant effects or critical hazards.
- 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.

Acetylene

## Section 12. Ecological information

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.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
<b>UN number</b>	UN1001	UN1001	UN1001	UN1001	UN1001
<b>UN proper shipping name</b>	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED
<b>Transport hazard class(es)</b>	2.1 	2.1 	2.1 	2.1 	2.1 
<b>Packing group</b>	-	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.	No.

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

### Additional information

**DOT Classification** : **Limited quantity** Yes.  
**Quantity limitation** Passenger aircraft/rail: Forbidden. Cargo aircraft: 15 kg.

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).

**Explosive Limit and Limited Quantity Index**  
0

**Passenger Carrying Ship Index**  
75

**Passenger Carrying Road or Rail Index**

## Section 14. Transport information

### Special provisions

38

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: 15 kg.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**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** : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

### 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

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## Section 15. Regulatory information

Not listed.

### Inventory list

<b>Australia</b>	: This material is listed or exempted.
<b>Canada</b>	: This material is listed or exempted.
<b>China</b>	: This material is listed or exempted.
<b>Europe</b>	: This material is listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS):</b> This material is listed or exempted. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: This material is listed or exempted.
<b>Philippines</b>	: This material is listed or exempted.
<b>Republic of Korea</b>	: This material is listed or exempted.
<b>Taiwan</b>	: This material is listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: This material is listed or exempted.
<b>United States</b>	: This material is listed or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

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

Health	/	0
Flammability		4
Physical hazards		3

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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### 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
FLAMMABLE GASES - Category 1	Expert judgment

## Section 16. Other information

### History

**Date of printing** : 1/18/2018

**Date of issue/Date of revision** : 1/18/2018

**Date of previous issue** : 10/10/2017

**Version** : 1.01

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = 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.