

## GASES

- Acetylene
- Ammonia
- Carbon Dioxide
- Carbon Monoxide
- Freon
- Hydrogen
- Oxygen
- LPG (Liquified Petroleum Gas)
- Propane

### Hazard Description:

Gases are materials stored under high pressure, which, when released from their containers, will expand several hundred times. Once released from their containers, gases may pose several different hazards to your health as well as to your safety.

Gases can be classified as flammable, combustible or as an oxidizing agent. If mishandled, explosions, fire or chemical reactions can result. Therefore, compressed gases present physical hazards as well as chemical hazards.

All gas cylinders must be handled with care, transported in a safe manner and stored properly. When in use or storage, they must be secured with a safety chain or strap. Cylinders of compressed gas have been known to torpedo through walls when the tank neck or valve was damaged or broken off.

Gases can present health hazards in addition to the physical hazards just described. For example: carbon monoxide is a colorless, odorless, toxic gas. It may be found in the air near gasoline engines or non-electric space heaters. Symptoms of overexposure include headache, dizziness, drowsiness, flushed appearance, shortness of breath, heavy sweating, nausea, vomiting, coma and death.

Carbon dioxide, nitrogen, and hydrogen are colorless, odorless gases. All are simple asphyxiants (can cause unconsciousness or death by suffocation, that is, lack of oxygen). For example, carbon dioxide is heavier than air, seeks low spots, filling, then displacing the air and oxygen needed to sustain life. Acetylene is a flammable, colorless gas with a garlic-like odor and is considered to be an asphyxiant. Symptoms of overexposure include dizziness, headache, mild gastric distress, and unconsciousness.

Ammonia, used as a refrigerant, is a powerful eye irritant. Overexposure may cause conjunctivitis (inflammation of the mucous membrane that lines the inner surface of the eyelids), nose and throat irritation, coughing and vomiting. Ammonia may irritate the skin if it is moist.

Propane and liquified petroleum gas are extremely flammable and considered simple asphyxiants.

## GASES - CONTINUED

Protect yourself from these gases by reading the labels and following the recommended precautions. Wear gloves and eye protection, avoid thoroughly before eating, drinking, or smoking.

General precautions: Keep the cylinder valve closed when gas is not being used. Gas cylinders should be moved on suitable hand trucks or carts. They should not be dragged, rolled, or allowed to strike solid objects or each other. Keep the protective cap on the cylinder when the gas is not being used. Empty gas cylinders are not really empty, some gas may remain in the cylinder. Therefore, close the valve, replace the protective cap, mark the cylinder "empty", and move it to the holding area pending return to the supplier. Do not lubricate gas regulators or fittings with oil or grease. To do so would create the potential for an explosion.

Gas cylinders should not be stored in confined spaces or where they may become part of an electric circuit. Gas cylinders should be kept away from work areas where they might be splashed with sparks or hot slag. If this is not possible, they should be protected from sparks and hot slag by a fire resistant shield.

Specific emergency procedures for each gas will be detailed on the Material Safety Data Sheet. In general, if a gas begins to leak from its container or piping system, evacuate the area and sound an alarm.

Because of the variety of gases in use, signs and symptoms of overexposure will vary. Read the MSDS for the particular product you are using.



# Safety Data Sheet

Prepared to GHS, U.S. OSHA, CMA, ANSI  
and Canadian WHMIS Standards

## 1. PRODUCT IDENTIFICATION

**CHEMICAL NAME; CLASS:** ACETYLENE GAS

**PRODUCT USE:** For general analytical/synthetic chemical/industrial welding/cutting

**SUPPLIER/MANUFACTURER'S NAME:** WESTERN INTERNATIONAL GAS & CYLINDERS, INC.

**ADDRESS:** 7173 HWY 159E, P.O. BOX 668  
BELLVILLE, TX 77418

**BUSINESS PHONE:** 1-979-413-2100

**EMERGENCY PHONE:** CHEMTREC  
1-800-424-9300

**DATE OF PREPARATION:** May 23, 2002

**REVISION:** C December 29, 2014

## 2. HAZARD IDENTIFICATION

**EMERGENCY OVERVIEW:** Acetylene is a colorless, flammable gas which may have a garlic-like odor, that is dissolved in a solvent called Acetone or Dimethylformamide (DMF). The main health hazard associated with a release of this gas is asphyxiation by displacement of oxygen. Acetylene gas poses an extreme fire hazard when accidentally released. The gas is lighter than air, and may spread long distances. Distant ignition and flashback are possible. Flame or high temperature impinging on a localized area of the cylinder of this product can cause the cylinder to explode without activating the cylinder's relief devices. Acetylene gas may decompose explosively at elevated temperatures and pressures. Acetylene can form very explosive metallic salts (such as copper, mercury, and silver). Provide adequate fire protection during emergency response situations.

### SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:

The most significant route of over exposure for this gas is by inhalation. The following paragraphs describe symptoms of exposure by route of exposure.

**INHALATION:** At concentration below the LEL or 2.5% (25000 ppm) this gas is essentially non-toxic. At higher concentrations, Acetylene has aesthetic effects. Symptoms of overexposure to higher concentrations may include dizziness, and a general feeling of weakness. High concentrations of this gas cause an oxygen-deficient environment. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in the ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. The skin of the victim of overexposure may have a blue color. Under some circumstances of overexposure, death may occur. The following effects associated with various levels of oxygen are as follows:

### CONCENTRATION

12-16% Oxygen:  
10-14% Oxygen  
6-10% Oxygen  
Below 6%

When administered with oxygen at concentrations of 10% or greater, Acetylene produces varying degrees of temporary narcosis.

### SYMPTOMS OF EXPOSURE

Breathing and pulse rate increased, muscular coordination slightly disturbed.  
Emotional upset, abnormal fatigue, disturbed respiration.  
Nausea & vomiting, collapse or loss of consciousness  
Convulsive movements possible respiratory collapse, and death

**OTHER POTENTIAL HEALTH EFFECTS:** The gas is generally non-irritating to the skin and eyes. Acetylene is dissolved in acetone or DMF. Any skin or eye contact with the acetone or DMF component of this product may be slightly irritating to contaminated skin or eyes.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:** An Explanation in **Lay Terms**. Overexposure to Acetylene may cause the following health effects:

**ACUTE:** The most significant hazard associated with Acetylene is inhalation of oxygen-deficient atmospheres. Symptoms of oxygen deficiency include respiratory difficulty, ringing in ears, headaches, shortness of breath, wheezing, headache, dizziness, indigestion, and nausea. At high concentrations, unconsciousness or death may occur.

**CHRONIC:** There are currently no known adverse health effects associated with chronic exposure to the components of this compressed gas.

**TARGET ORGANS:** Respiratory system, central nervous system.

**GHS LABEL ELEMENTS:**

**Symbol(s)**



**Signal Word**

**DANGER**

**Hazard Statement(s)**

- Extremely flammable gas
- Contains gas under pressure; may explode if heated
- May cause drowsiness and dizziness
- May displace oxygen and cause rapid suffocation.

**3. COMPOSITION and INFORMATION ON INGREDIENTS**

Acetylene withdrawn from a cylinder.

CHEMICAL NAME	CAS #	mole %	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			OTHER
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm	
Acetylene	74-86-2	>98.5	Simple Asphyxiant	NE	NE	NE		NIOSH REL: 2500ppm, ceiling
Maximum Impurities		<.1.5%	None of the trace impurities in this mixture contribute significantly to the hazards associated with the product. All hazard information pertinent to this product has been provided in this Safety Data Sheet, per the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200), State equivalents standard and Global Harmonization System..					

NE = Not Established      C = Ceiling Limit      See Section 16 for Definitions of Terms Used.  
 NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

Acetylene cylinders are filled with a porous mass material containing the solvent Acetone or Dimethylformamide (DMF) in which the acetylene is dissolved. DMF solvent is typically used in the larger cylinders on Acetylene Trailer Manifold Systems or Acetylene Pack Manifold Systems.. Cylinders with DMF as the solvent will have DMF stamped on the top shoulder of the cylinder. Reference Compressed Gas Association (CGA) G-1.9 for solvent levels.

## 4. FIRST-AID MEASURES

**RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO ACETYLENE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus and Fire-Retardant Personal Protective equipment should be worn. Adequate fire protection must be provided during rescue situations.**

Remove victim(s) to fresh air, as quickly as possible. Trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Only trained personnel should administer supplemental oxygen.

**SKIN EXPOSURE:** If the liquid portion of this product (acetone or DMF) is spilled on skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention if redness or irritation develops.

**EYE EXPOSURE:** If the liquid portion of this product (acetone or DMF) splashes into eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes.

Victim(s) must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to physician or other health professional with victim(s).

## 5. FIRE-FIGHTING MEASURES

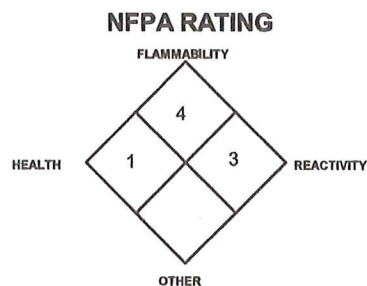
**FLASH POINT (closed cup method):** 0 °C ; (32°F)

**AUTOIGNITION TEMPERATURE:** 305 °C ; (581°F)

**FLAMMABLE LIMITS (in air by volume, %):**

**Lower (LEL):** 2.5%

**Upper (UEL):** 82%  
100% with substantial energy source and under certain conditions of pressure, container size and shape



**FIRE EXTINGUISHING MATERIALS:** Extinguish fires involving this gas by shutting-off the source of the gas. Use water spray to cool adjacent fire-exposed containers, structures, and equipment.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** When involved in a fire, this material ignites to produce toxic gases (including carbon monoxide and carbon dioxide). Acetylene gas is extremely flammable and can readily form explosive mixtures with air over a very wide range. An explosive hazard exists in confined spaces when the gas is released. Pure Acetylene can explode under certain conditions of elevated pressure, temperature and container size. Acetylene reacts with active metals to form explosive acetylide compounds.

**DANGER!** Fires impinging (direct flame) on the outside surface of unprotected pressure storage vessels of Acetylene can be very dangerous. Direct flame exposure on the cylinder wall can cause an explosion either by BLEVE (Boiling Liquid Expanding Vapor Explosion), or by exothermic decomposition. This could cause a catastrophic failure of the vessel releasing the contents into a massive fireball and explosion. The resulting fire and explosion can result in severe equipment damage and personnel injury or death over a large area around the vessel. For massive fires in large areas, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from area and allow fire to burn.

**Explosion Sensitivity to Mechanical Impact:** Not Sensitive.

**Explosion Sensitivity to Static Discharge:** Static discharge may cause this gas to ignite explosively, if released.

**SPECIAL FIRE-FIGHTING PROCEDURES:** The best fire-fighting technique may be simply to let the burning gas escape from the pressurized cylinder, tank car, or pipeline. Stop the leak before extinguishing fire. If the fire is extinguished before the leak is sealed, the still-leaking gas could explosively re-ignite without warning and cause extensive damage, injury, or fatality. In this case, increase ventilation (in enclosed areas) to prevent flammable or explosive mixture formation. Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Because of the potential for a BLEVE, evacuation of non-emergency personnel is essential. If water is not available for cooling or protection of vessel exposures, evacuate the area. Refer to the North American Emergency Response Guidebook (Guide #116).

## 6. ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK RESPONSE:** Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a release, clear the affected area and protect people. Adequate fire protection must be provided.

Minimum Personal Protective Equipment should be **Level B: fire-retardant protective clothing, mechanically-resistant gloves and Self-Contained Breathing Apparatus for rescue**. Use only non-sparking tools and equipment. Locate and seal the source of the leaking gas. Protect personnel attempting the shut-off with water-spray. Allow the gas to dissipate. Monitor the surrounding area for oxygen and combustible gas levels. Combustible gas concentration must be below 10% of the LEL (LEL = 2.5%) prior to entry of any response personnel. The atmosphere must have at least 19.5 percent oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus.

Attempt to close the main source valve prior to entering the area. If this does not stop the release (or if it is not possible to reach the valve), allow the gas to release in-place or remove it to a safe area and allow the gas to be released there.

**THIS IS AN EXTREMELY FLAMMABLE GAS.** Protection of all personnel and the area must be maintained.

## 7. HANDLING and STORAGE

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting Acetylene IN YOU. Do not eat or drink while handling chemicals. Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of Acetylene could occur without any significant warning symptoms.

**STORAGE AND HANDLING PRACTICES:** Cylinders should be stored in dry, well-ventilated areas away from sources of heat. Compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits. Post "No Smoking or Open Flames" signs in storage or use areas. Avoid storage for over six months and keep the smallest amount necessary on-site at any one-time. In the United States, cylinders of Acetylene stored inside buildings at the locations of use, must be limited to a stored total capacity of 2000 ft<sup>3</sup> per OSHA. NFPA 1000 ft<sup>3</sup> or 2000 ft<sup>3</sup> if building sprinklered or storage is in a gas room. In Canada, check with local authorities as they can vary. After these quantities are exceeded, a special room must be built for the storage of Acetylene. Consider installation of leak detection and alarm for storage area. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over. This will prevent acetone or DMF from being released from the cylinder. Cylinders can be stored in the open, but in such cases, should be protected against extremes of weather and from the dampness of the ground to prevent rusting.

Use non-sparking ventilation systems, approved explosion-proof equipment, and appropriate electrical systems if possible acetylene release may occur. Keep the quantity stored as small as possible. Store away from process and production areas, away from elevators, building and room exits or main aisles leading to exits. Keep storage area clear of materials which can burn. Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers).

It is important to note that Acetylene, in its free state, under pressure, may decompose violently. The higher the pressure, the smaller the initial force necessary to cause a reaction. Therefore, **never use the free gas outside the cylinder at pressures in excess of 15 psig or 30 psia**. If pressures exceeding this limit are utilized, special explosion and fire safety precautions must be implemented.

**SPECIAL PRECAUTIONS FOR HANDLING GAS CYLINDERS:** Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 52°C (125°F). Isolate from halogens and oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Never tamper with pressure relief devices in valves and cylinders. Electrical equipment should be non-sparking or explosion proof. The following rules are applicable to work situations in which cylinders are being used:

**Before Use:** Move cylinders with a suitable hand-truck. Do not drag or slide cylinders. Do not drop cylinders or permit them to strike each other. Secure cylinders firmly. Leave the valve protection cap (where provided) in-place until the cylinder is ready for use.

**During Use:** Use designated CGA fittings and other support equipment. Do not use adapters. Do not heat cylinder by any means to increase the discharge rate of the product from the cylinder. Use check valve or trap in the discharge line to prevent hazardous backflow into the cylinder. Do not use oils or grease on gas-handling fittings or equipment.

**After Use:** Close main cylinder valve. Valves should be closed tightly, to prevent evaporation of acetone or DMF. Replace valve protection cap. Mark empty cylinders "EMPTY".

**NOTE:** Use only DOT or ASME code containers designed for acetylene storage. Earth-ground and bond all lines and equipment permanently installed associated with this product. Close valve after each use and when empty. Cylinders must not be recharged except by or with the consent of owner. For additional information refer to the Compressed Gas Association Pamphlet P-1, *Safe Handling of Compressed Gases in Containers*. Additionally, refer to CGA Bulletin SB-2 "Oxygen Deficient Atmospheres" and NFPA Bulletin 58.

For welding and brazing operations, refer to ANSI Z-49.1 "*Safety in Welding and Cutting*" and OSHA safety regulations for welding, cutting, and brazing (29 CFR 1910.252).

**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:** Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Purge gas handling equipment with inert gas (e.g., nitrogen) before attempting repairs.

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure oxygen levels are above 19.5% in the work area. Local exhaust ventilation is preferred, because it prevents Acetylene dispersion into the work place by eliminating it at its source. If appropriate, install automatic monitoring equipment to detect the level of oxygen and the presence of potentially explosive air-gas mixtures.

**RESPIRATORY PROTECTION:** Maintain oxygen levels above 19.5% in the workplace. Use supplied air respiratory protection if oxygen levels are below 19.5% or during emergency response to a release of Acetylene. If respiratory protection is required, follow the requirements of the Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent State standards.

**EYE PROTECTION:** Splash goggles or safety glasses, for protection from rapidly expanding gases and splashes of the acetone or DMF.

**HAND PROTECTION:** Wear mechanically-resistant gloves when handling cylinders of Acetylene. Wear Solvex or neoprene gloves if operations could lead to a potential exposure to acetone or DMF.

**BODY PROTECTION:** Use body protection appropriate for task. Transfer of large quantities under pressure may require protective equipment appropriate to protect employees from splashes of liquefied product, as well as fire retardant items.

## 9. PHYSICAL and CHEMICAL PROPERTIES

### Without Solvent

VAPOR DENSITY (@ 0°C): 1.1716 kg/m<sup>3</sup> (0.073 lb/ft<sup>3</sup>)  
SPECIFIC GRAVITY (air = 1): 0.906  
SOLUBILITY IN WATER @15.6°C (60°F) 1.1 vol/vol  
EVAPORATION RATE (nBuAc = 1): Not applicable.  
ODOR THRESHOLD (Detection): 226 ppm  
COEFFICIENT WATER/OCTANOL DISTRIBUTION:  
Log KOW= 0.37

pH: Not applicable.  
FREEZING POINT (@ 10 psig): -82.2°C (-116°F)  
BOILING POINT: -84°C (-119.2°F) [sublimes]  
EXPANSION RATIO: Not applicable.  
VAPOR PRESSURE (psia): 649.6 @ 70°F  
SPECIFIC VOLUME (ft<sup>3</sup>/lb): 14.7 @ 70°F

APPEARANCE AND COLOR: Colorless gas with a garlic-like, odor dissolved in acetone or DMF.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no distinct warning properties. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

## 10. STABILITY and REACTIVITY

STABILITY: Dissolved Acetylene is stable at standard temperatures and pressures. Gaseous acetylene may decompose violently at elevated temperatures and pressures. Acetylene must not be used above pressure greater than 15 psig. The higher the pressure, the more likely it is for a reaction to occur.

DECOMPOSITION PRODUCTS: Carbon and hydrogen. When ignited in the presence of oxygen, carbon monoxide and carbon dioxide are formed.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Acetylene is not compatible with the following materials. Strong oxidizers (e.g. chlorine, bromine pentafluoride, oxygen, oxygen difluoride, and nitrogen trifluoride), brass (with a copper content exceeding 65%), calcium hypochlorite, various heavy metals (copper, silver, mercury) and the salts of these metals, halogens (bromine, chlorine, iodine, fluorine), hydrides (e.g. sodium hydride, cesium hydride), ozone, perchloric acid; potassium.

HAZARDOUS POLYMERIZATION: Can occur when heated or under pressure.

CONDITIONS TO AVOID: Contact with incompatible materials and exposure to heat, sparks and other sources of ignition. Cylinders exposed to high temperatures or direct flame can rupture or burst. Liquid nitrogen should not be used as a trap, as it may cause acetylene to condense to its liquid or solid state, both of which are explosive.

## 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is for Acetylene.

TCLo (inhalation, human) = 20 % central nervous system, respiratory system effects.

LCLo (inhalation, human) = 50 %/5 minutes

Other data pertaining to the effects of Acetylene inhalation on humans are as follows:

### Concentration Symptom

10% ppm Intoxication (drowsiness, dizziness, giddiness).

20% ppm Severe intoxication.

30% ppm Loss of coordination.

35% ppm Unconsciousness after 5 minutes of exposure.

**Effects on Short-Term Inhalation:** Animals have shown tolerance to 10% Acetylene. In studies with dogs, cats, and rabbits, Acetylene acts as an anesthetic at 20% exposure. Recovery occurs if the oxygen level is maintained. In an oxygen-deficient environment, death may occur after 510 minutes. Rodents exposed to 25, 50, and 80 percent Acetylene in oxygen for 1-2 hours daily (93 hours total exposure), evidenced no weight change or cellular damage. Mixtures of 80% Acetylene/20% oxygen caused a rise in blood pressure in an exposed cat.



**SUSPECTED CANCER AGENT:** Acetylene is not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA, and therefore is not considered to be, nor suspected to be a cancer-causing agent by these agencies.

**IRRITANCY OF PRODUCT:** Acetylene is not irritating; however, contact with the acetone or DMF component of Acetylene can be slightly irritating to contaminated skin or eyes.

**SENSITIZATION TO THE PRODUCT:** Acetylene is not known to cause sensitization in humans.

**REPRODUCTIVE TOXICITY INFORMATION:** Listed below is information concerning the effects Acetylene on the human reproductive system.

Mutagenicity: No mutagenicity effects have been described for Acetylene.

Embryotoxicity: No embryotoxic effects have been described for Acetylene.

Teratogenicity: No teratogenicity effects have been described for Acetylene.

Reproductive Toxicity: No reproductive toxicity effects have been described for Acetylene.

*A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight 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.*

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Acute or chronic respiratory conditions may be aggravated by overexposure to the components of Acetylene.

**BIOLOGICAL EXPOSURE INDICES (BEIs):** Currently, Biological Exposure Indices (BEIs) are not applicable for this gas.

**RECOMMENDATIONS TO PHYSICIANS:** Administer oxygen, if necessary. Treat symptoms and eliminate exposure.

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL STABILITY:** This gas will be dissipated rapidly in well-ventilated areas. The following environmental data are available for this gas.

**ACETYLENE:** Water Solubility = see physical properties. Acetylene is not expected to be harmful to aquatic life. Only moderately toxic to fish. Volatility and low solubility suggest it would be rare for water to become critically polluted from accidental releases. Acetylene is biodegraded through various plant and bacterial systems by inactivating atmospheric acetylene through their nitrogen-fixing mechanisms.

**EFFECT OF MATERIAL ON PLANTS or ANIMALS:** Any adverse effect on animals would be related to oxygen deficient environments and the anesthetic properties of Acetylene at high concentrations of exposure.

**EFFECT OF CHEMICAL ON AQUATIC LIFE:** The following aquatic toxicity data are available for Acetylene. LC50 (river trout): 33 hours, 200 mg/L

## 13. DISPOSAL CONSIDERATIONS

**PREPARING WASTES FOR DISPOSAL:** Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Return cylinders to supplier for disposal.

## 14. TRANSPORTATION INFORMATION

THIS MATERIAL IS HAZARDOUS AS DEFINED BY 49 CFR 172.101  
BY THE U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** Acetylene, dissolved

**HAZARD CLASS NUMBER and DESCRIPTION:** 2.1 (Flammable Gas)

**UN IDENTIFICATION NUMBER:** UN 1001

**PACKING GROUP:** Not Applicable

DOT LABEL(S) REQUIRED

Flammable Gas

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): 116

MARINE POLLUTANT: Acetylene is not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

**15. REGULATORY INFORMATION**

U.S. SARA REPORTING REQUIREMENTS: Acetylene is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable

CANADIAN DSL/NDL INVENTORY STATUS: Acetylene is on the DSL Inventory.

U.S. TSCA INVENTORY STATUS: Acetylene is on the TSCA Inventory.

OTHER U.S. FEDERAL REGULATIONS: Acetylene is subject to the reporting requirements of Section 112(r) of the Clean Air Act. The Threshold Quantity for this gas is 10,000 lb. Depending on specific operations involving the use of Acetylene, the regulations of the Process Safety Management of Highly Hazardous Chemicals may be applicable (29 CFR 1910.119).

Under this regulation Acetylene is not listed in Appendix A, however, any process that involves a flammable gas on-site, in one location, in quantities of 10,000 lb (4,553 kg) or greater is covered under this regulation unless it is used as a fuel.

Use of Acetylene is also covered in OSHA standards 29 CFR 1910.253 and 1926.350.

Many states have adopted the standards developed by the National Fire Protection Agency NFPA

U.S. STATE REGULATORY INFORMATION: Acetylene is covered under specific State regulations, as denoted below:

<b>Alaska - Designated Toxic and Hazardous Substances:</b> Acetylene.	<b>Missouri - Employer Information/Toxic Substance List:</b> Acetylene.
<b>California - Permissible Exposure Limits for Chemical Contaminants:</b> Acetylene.	<b>New Jersey - Right to Know Hazardous Substance List:</b> Acetylene.
<b>Florida - Substance List:</b> Acetylene.	<b>North Dakota - List of Hazardous Chemicals, Reportable Quantities:</b> No.
<b>Illinois - Toxic Substance List:</b> Acetylene.	<b>Pennsylvania - Hazardous Substance List:</b> Acetylene.
<b>Kansas - Section 302/313 List:</b> No.	<b>Rhode Island - Hazardous Substance List:</b> Acetylene.
<b>Massachusetts - Substance List:</b> Acetylene.	<b>Texas - Hazardous Substance List:</b> No.
<b>Michigan - Critical Materials Register:</b> No.	<b>West Virginia - Hazardous Substance List:</b> No.
<b>Minnesota - List of Hazardous Substances:</b> Acetylene.	<b>Wisconsin - Toxic and Hazardous Substances:</b> No.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Acetylene is not on the California Proposition 65 lists.

LABELING:

**DANGER:** FLAMMABLE GAS UNDER PRESSURE. CAN FORM EXPLOSIVE MIXTURES WITH AIR. FUSIBLE PLUGS ON TOP, BOTTOM, OR VALVE MELT AT 208 °F (98-104 °C). DO NOT DISCHARGE AT PRESSURES ABOVE 15 PSIG (103 kPa)

**ODOR:** Garlic-like  
Keep away from heat, flames, and sparks.  
Store and use with adequate ventilation.  
Use equipment rated for cylinder pressure.  
Close valve after each use and when empty.  
Use in accordance with the Safety Data Sheet.

**NOTE:** Cylinder contains acetone or DMF solvent, which may cause irritation.  
DO NOT REMOVE THIS PRODUCT LABEL

## 16. OTHER INFORMATION

This SDS was prepared by Western International Gas & Cylinders, Inc. in coordination of the new Global Harmonization System (GHS). Updated 12/29/14.

### Other Information

Western International Gas & Cylinders, Inc. makes no express or implied warranties, guarantees or representations regarding the product or information herein, including but not limited to any implied warranty or merchantability or fitness for use. Western International Gas & Cylinders, Inc. shall not be liable for any personal injury, property or damage of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.

### DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these which are commonly used include the following:

**CAS #:** This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

#### EXPOSURE LIMITS IN AIR:

**ACGIH** - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.  
**TLV** - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8hour Time Weighted Average (**TWA**), the 15-minute Short Term Exposure Limit, and the instantaneous Ceiling Level (**C**). Skin absorption effects must also be considered.

**OSHA** - U.S. Occupational Safety and Health Administration.

**PEL** - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

**IDLH** - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

**The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL.

**NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called Recommended Exposure Levels (**RELs**). When no exposure guidelines are established, an entry of **NE** is made for reference.

#### HAZARD RATINGS: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM:

##### Health Hazard:

- 0 (minimal acute or chronic exposure hazard);
- 1 (slight acute or chronic exposure hazard);
- 2 (moderate acute or significant chronic exposure hazard);
- 3 (severe acute exposure hazard; onetime overexposure can result in permanent injury and may be fatal);
- 4 (extreme acute exposure hazard; onetime overexposure can be fatal).

##### Flammability Hazard:

- 0 (minimal hazard);
- 1 (materials that require substantial pre-heating before burning);
- 2 (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]);
- 3 (Class IB and IC flammable liquids with flash points below 38°C [100°F]);
- 4 (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]).

##### Reactivity Hazard:

- 0 (normally stable);
- 1 (material that can become unstable at elevated temperatures or which can react slightly with water);
- 2 (materials that are unstable but do not detonate or which can react violently with water);
- 3 (materials that can detonate when initiated or which can react explosively with water);
- 4 (materials that can detonate at normal temperatures or pressures).

#### NATIONAL FIRE PROTECTION ASSOCIATION:

##### Health Hazard:

- 0 (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials);
- 1 (materials that on exposure under fire conditions could cause irritation or minor residual injury);
- 2 (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury);
- 3 (materials that can on short exposure could cause serious temporary or residual injury);
- 4 (materials that under very short exposure could cause death or major residual injury).

##### Flammability Hazard and Reactivity Hazard:

Refer to definitions for "Hazardous Materials Identification System".

#### FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**).

**Flash Point** - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air.

**Autoignition Temperature** -: The minimum temperature required to initiate combustion in air with no other source of ignition. **LEL** - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. **UEL** - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

**TOXICOLOGICAL INFORMATION:**

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are:

**LD<sub>50</sub>** Lethal Dose (solids & liquids) which kills 50% of the exposed animals;

**LC<sub>50</sub>** - Lethal Concentration (gases) which kills 50% of the exposed animals;

**ppm** concentration expressed in parts of material per million parts of air or water;

**mg/m<sup>3</sup>** concentration expressed in weight of substance per volume of air;

**mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material.

The sources are:

**IARC** - the International Agency for Research on Cancer;

**NTP** - the National Toxicology Program,

**RTECS** -the Registry of Toxic Effects of Chemical Substances,

**OSHA and CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used.

Other measures of toxicity include:

**TDLo**, the lowest dose to cause a symptom and

**TCLo** the lowest concentration to cause a symptom;

**TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause lethal or toxic effects.

**BEI** Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

**ECOLOGICAL INFORMATION:**

**EC** is the effect concentration in water.

**REGULATORY INFORMATION:**

This section explains the impact of various laws and regulations on the material.

**EPA** is the U.S. Environmental Protection Agency.

**WHMIS** is the Canadian Workplace Hazardous Materials Information System.

**DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively.

Superfund Amendments and Reauthorization Act (**SARA**);

the Canadian Domestic/Non-Domestic Substances List (**DSL/NDL**);

the U.S. Toxic Substance Control Act (**TSCA**);

Marine Pollutant status according to the **DOT**;

the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA or Superfund**);

and various state regulations.

**Section 1. Identification**

<b>Kamps Propane</b> 1915 Moffat Blvd Manteca CA 95336	<b>Transportation Emergency (PERS)</b>  <b>Technical Information</b>	1(800)633-8253  (209) 823-8924 ext 5063
<b>Product Name:</b>	PROPANE	<b>SDS no.</b> 6182
<b>Common Name:</b>	Propane, Liquefied Petroleum Gas; LP Gas; HD-5 Propane; HD-10 Propane; Commercial Propane, Unodorized Propane, Odorized Propane.	<b>Revision Date:</b> 4/1/2015
<b>Chemical Name :</b>	Dimethylmethane	<b>Chemical Formula:</b> C3H8
<b>Chemical Family:</b>	Paraffin Hydrocarbons	
<b>Relevant identified uses of the substance or mixture and uses advised against</b> Not Available		

**Section 2. Hazards Identification**

**OSHA/HCS Status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or GHS label elements** FLAMMABLE GASES - Category 1  
GASES UNDER PRESSURE - Compressed gas



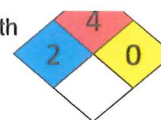
**Hazard pictograms:**  
**Signal word:** Danger  
**Hazard Statements:** Extremely flammable gas. Contains gas under pressure; may explode if heated.

**Precautionary statements**  
**General:** If medical advice is needed, have product container or label at hand.  
**Prevention:** Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/clothing and eye/face protection. Use personal protective equipment as required.  
**Response:** Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
**Storage:** Protect from sunlight. Store in a well-ventilated place.  
**Disposal:** Not applicable.

**Hazards not otherwise classified:** Not known.

<b>Hazardous Material Information System (U.S.A)</b>	<b>Health: 1</b>	<b>Flammability: 4</b>	<b>Physical Hazards : 2</b>
<b>National Fire Protection Association (U.S.A)</b>	<b>Health: 2</b>	<b>Flammability: 4</b>	<b>Instability: 0</b>

Fire hazard	4
Physical hazards:	2
Personal protection	



Specific Hazard

### Section 3. Composition/Information on Ingredients

<b>Substance/mixture</b>	Mixture
<b>Chemical name</b>	Dimethylmethane
<b>Other means of identification</b>	HD-5 Propane; HD-10 Propane; Commercial Propane, Unodorized Propane, Odorized Propane.

Ingredient Name	%	Cas Number
Propane	90-100	74-98-6
Ethyl Mercaptan	<0.1	75-08-1
Potential Impurities		
Propene; Propylene	0 - 10	115-07-1
Butanes (n-Butane and iso-Butane)	0 - 5	106-97-8, 75-28-5
Ethane	0 - 8	74-84-0

Odorized products contain small quantities of ethyl mercaptan as an olfactory indicator.

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>	In case of liquid contact with eyes, flush eyes immediately with clear water for at least 15 minutes, occasionally lifting the upper and lower lids, until no evidence of chemical remains. Remove contact lenses if present and easy to do. Seek immediate medical attention.
<b>Inhalation</b>	If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If breathing difficulties develop, oxygen should be administered by qualified personnel. If victim is not breathing, clear airway and immediately begin artificial respiration. Seek immediate medical attention.
<b>Skin Contact</b>	Frozen tissue should be flushed with plenty of tepid water. Do not use hot water. In case of blistering, frostbite, or freeze burns, seek immediate medical attention.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with cool water. Seek medical attention.

#### 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>	The substance may cause effects on the central nervous system.
<b>Skin Contact</b>	Contact with rapidly expanding gas may cause burns or frostbite
<b>Ingestion</b>	As this product is a gas, refer to the inhalation section.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	Propane exhibits some degree of anesthetic action and is mildly irritating to the mucous membranes.
<b>Inhalation</b>	At high concentrations propane acts as a simple asphyxiant without other significant physiological effects. High concentrations may cause death due to oxygen depletion. Dizziness; confusion;
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

**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.
<b>Specific treatments</b>	No specific treatment.
<b>Protection of first-aiders</b>	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. Do not extinguish gas fire unless the gas leak can be stopped.

**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. The gas is heavier than air and may flash back at a distance.

**Hazardous thermal decomposition products** Decomposition products may include the following materials  
carbon dioxide  
carbon monoxide

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

**Methods and materials for containment and cleaning up**

**Spill** Immediately contact emergency personnel. Stop leak if without risk. Use spark-

proof tools and explosion- proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and Storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

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

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

## Section 8. Exposure Controls/Personal Protection

### Control Parameters

#### Occupational exposure limits

Ingredients Name	Exposure Limits
Propane	<b>NIOSH REL (United States, 4/2013).</b> TWA: 1800 mg/m <sup>3</sup> 10 hours. TWA: 1000 ppm 10 hours <b>OSHA PEL (United States, 2/2013).</b> TWA: 1800 mg/m <sup>3</sup> 8 hours. TWA: 1000 ppm 8 hours.
Propene	<b>ACGIH TLV (United States, 3/2012).</b> TWA: 500 ppm 8 hours.

#### Appropriate engineering controls

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

#### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working



period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin Protection**

**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**

Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Section 9. Physical and Chemical Properties**

**Appearance**

Physical State	Gas. [(liquid under pressure).]
Color	Colorless
Odor	If odorized, will have rotten egg odor, otherwise
Odor threshold	Not Available
PH	Not available
Melting point	Not available
Boiling point	-42.222°C (-44°F)
Flash Point	Closed cup: -104.444°C (-156°F)
Flammability	Not available
Lower and upper explosive (flammable) limits	Lower: 2.1% Upper: 9.5%

Relative density	0.5
Evaporation rate	Not available
Solubility	Not available
Solubility in water	Very Slightly Soluble
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	467.778°C (874°F)
Decomposition temperature	Not available
SADT	Not available
Viscosity	Not available
Vapor Pressure	190 psia @ 100°F
Vapor Density	1.5 [Air= 1]

## 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 reaction</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>	Reactive or incompatible with the following materials: oxidizing materials and acids.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

There is no data available

#### Irritation/Corrosion

**Skin** There is no data available

**Eyes** There is no data available

**Respiratory** There is no data available

#### Sensitization

**Skin** There is no data available

**Respiratory** There is no data available

#### Mutagenicity

There is no data available

#### Carcinogenicity

There is no data available

#### Reproductive toxicity

There is no data available

#### Teratogenicity

There is no data available

#### Specific target organ toxicity (single exposure)

There is no data available

#### Aspiration hazard

There is no data available

#### Information on the likely routes of exposure

Dermal contact. Eye contact. Inhalation.

## Section 12. Ecological Information

### Toxicity

Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing

**Persistence and degradability**

Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapor phase in ambient air.

**Bioaccumulative potential**

Not expected to bioaccumulate.

**Mobility in soil**

**Soil/water partition coefficient (Koc)**    There is no data available

**Other adverse effects**                    Other environmental hazards cannot be excluded in the event of unprofessional handling or disposal.

**Section 13. Disposal Considerations**

**Disposal methods**    The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Empty pressure vessels should be returned to the supplier. 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**

<b>DOT IDENTIFICATION NUMBER</b>	UN1075	<b>DOT proper shipping name</b>	LIQUEFIED PETROLEUM GAS (Propane, Ethane)
<b>DOT Hazard Class(es)</b>	2.1	<b>PG</b>	Not applicable. <b>DOT EMER. RESPONSE GUIDE NO. 115</b>

**Section 15. Regulatory Information**

**U.S. Federal regulations**                    **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Air Act (CAA) 112 regulated flammable substances:**  
Propane; Propene; Ethane; Isobutane; Butane

**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

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**                    : Not listed

**SARA 302/304**

**Composition/information on ingredients**  
No products were found.

**SARA 304 RQ**                    : Not applicable.

**SARA 311/312**

**Classification** : Fire hazard  
Sudden release of pressure

**Composition/information on ingredients**

No products were found.

**SARA 313** This product (does/not) contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

Product Name	CAS Number	%
Propene	115-07-1	0-10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

**Massachusetts** The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

**New York** None of the components are listed.

**New Jersey** The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

**Pennsylvania** The following components are listed: Propane; Propene; Ethane; Isobutane; Butane

**California Prop. 65** No products were found.

**Section 15. Regulatory Information**

**Revision date**  
**Revised Section(s)**

**Supersedes**  
**Prepared By**

**Notice to reader**

THE INFORMATION CONTAINED IN THIS SDS RELATES ONLY TO THE SPECIFIC MATERIAL IDENTIFIED. IT DOES NOT COVER USE OF THAT MATERIAL IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PARTICULAR PROCESS. IN COMPLIANCE WITH 29 C.F.R. 1910.1200(g), CHS HAS PREPARED THIS SDS IN SEGMENTS, WITH THE INTENT THAT THOSE SEGMENTS BE READ TOGETHER AS A WHOLE WITHOUT TEXTUAL OMISSIONS OR ALTERATIONS. CHS BELIEVES THE INFORMATION CONTAINED HEREIN TO BE ACCURATE, BUT MAKES NO REPRESENTATION, GUARANTEE, OR WARRANTY, EXPRESS OR IMPLIED, ABOUT THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THE INFORMATION OR ABOUT THE FITNESS OF CONTENTS HEREIN FOR EITHER GENERAL OR PARTICULAR PURPOSES. PERSONS REVIEWING THIS SDS SHOULD MAKE THEIR OWN DETERMINATION AS TO THE MATERIAL'S SUITABILITY AND COMPLETENESS FOR USE IN THEIR PARTICULAR APPLICATIONS.