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Gas Liquids Company

PROPANE WITH ODORANT

Emergency
Phone Number 1-800-424-9300

Material Safety Data Sheet

Section I

Chemical Name: LIQUEFIED PETROLEUM GAS or PROPANE
CAS Registry No.:74-98-6 Chemical Family: Hydrocarbon

WARNING: Danger! Extremely flammable. Compressed Gas Asphyxiant in high concentrations. Contact with liquids causes burns similar to frost bite. OSHA permissible exposure limit (PEL) 1000 ppm for an 8-hour workday.

4-Severe 1-Slight
3-Serious 0-Minimal
2-Moderate

Appearance and Odor: Vapor and liquid are colorless, product contains an odorant (unpleasant odor).

Section II HAZARDOUS INGREDIENTS

Hazardous Mixtures: Air with 2.15 to 9.60 percent propane

Section III PHYSICAL DATA

Boiling Point: -44°F
Specific Gravity (H_2O=1): 0.51
Vapor Density (air=1): 1.52
Solubility in Water: Slightly

Vapor Pressure (PSIG) at 100°F: 205
Percent, Volatile by Volume (%): 100
Evaporation rate: Gas at normal ambient temperatures

Section IV FIRE AND EXPLOSION HAZARD DATA

Flash Point: -44°F (CC) Classification: Flammable Gas UN 1075
Flammable Limits-LFL: 2.15 UFL: 9.60 Extinguishing Media: Water spray-Class A-B-C or BC fire extinguisher.
Special Fire Fighting Procedures: Stop flow of gas. Use water to keep fire exposed containers cool. Use water spray to disperse unignited gas or vapor. If ignition has occurred and no water available, tank metal may weaken from overheating. Evacuate area. If gas has not ignited, LP-gas liquid or vapor may be dispersed by water spray or flooding.

Decomposition Products under Fire Conditions: Fumes, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion or when used as an engine fuel.

"EMPTY" Container Warning: "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Section V HEALTH HAZARD

OSHA P.E.L.: 1000PPM ACGIH TLV: 1000 PPM Effects of Overexposure: Inhalation - concentrations can lead to symptoms ranging from dizziness to anesthesia and respiratory arrest. Eyes - moderate irritation. Emergency & First Aid procedures: Inhalation - remove to fresh air. Guard against self injury. Apply artificial respiration if breathing has stopped.

Section VI REACTIVITY DATA

Stable: X Unstable:__ Hazard Decomposition Products: None_____
Incompatibility (materials to avoid): Mixing with oxygen or air, except at burner
Hazardous Polymerization: May occur_____ Will not occur_X_

Section VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released: Keep public away, shut off supply of gas. Eliminate sources of ignition. Ventilate the area. Disperse with water spray. Contact between skin and these gases in liquid form can cause freezing of tissue causing injury similar to thermal burn.
Waste Disposal Method: Controlled burning. Contact supplier.

Section VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: Stay out of gas or vapor (because of fire hazard). Ventilation: Explosion-proof motors and keep sources of ignition at safe distances. Personal Protective Equipment and Apparel: Gloves resistant to the actions of LP-gases, goggles for protection against accidental release of pressurized products.

Section IX SPECIAL PRECAUTIONS

Precautions to be taken when handling and storing: Keep containers away from heat sources and store in upright position. Containers should not be dropped. keep container valve closed when not in use. Other Precaution: Install protective caps and plug container service valve when not connected for use.

Section X TOXICOLOGICAL INFORMATION

OSHA Carcinogen Classification (29 CFR 1910) Not listed/applicable _X_
U.S Department of Health (21 CFR 184.1655): Generally recognized as safe (GRAS) as a direct human food ingredient when used as a propellant, aerating agent and gas as defined in Section 170.3(o)(25).

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Section XI **DOT LABELING INFORMATION (49 CFR 100-199)**

Proper shipping: Liquefied Petroleum Gas
Hazardous Classification: Flammable Gas

Identification No.: UN 1075
Label(s) Required:/ Flammable Gas

Section XI **ISSUE INFORMATION**

Issued: March 19, 2001

Supersedes: June 1, 1999

This material safety data sheet and the information it contains is offered to you in good faith as accurate. This Supplier does not manufacture this product but is a supplier of the product independently manufactured by others. Much of the information contained in this data sheet was received from sources outside our Company. To the best of our knowledge this information is accurate, but this Supplier does not guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely, comply with all applicable laws and regulations and to assume the risks involved in the used of this product.

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WARNING AND SAFETY INFORMATION BULLETIN

HD-5 Odorized Propane

To: All Smith Gas Liquids Company Customers

Issued: April 16, 2003

THE FOLLOWING BULLETIN CONTAINS IMPORTANT WARNING AND SAFETY INFORMATION. PLEASE READ IT CAREFULLY AND USE THE INFORMATION PROVIDED TO EDUCATE YOUR CUSTOMERS CONCERNING THE HAZARDS AND PROPER HANDLING OF HD-5 ODORIZED PROPANE.

Propane is a liquid hydrocarbon, which, at normal atmospheric conditions, is a colorless, odorless, and flammable gas. It is completely safe when stored in a system, which is being maintained and operated correctly. Liquid propane expands considerably when vaporized and is very hazardous in the event of an uncontrolled release. To help prevent accidental propane fires and/or explosions, **inspect your customer's systems to ensure that they are being safely and properly maintained and operated.** The National Propane Gas Association's GAS Check program is a very effective way to ensure that your customers are not operating unsafe systems by enabling you to detect and remedy any problems that should arise. Your participation in this program will help to protect your customers as well as your company.

To help detect and prevent an explosion or release of built up propane gas, an odorant, usually ethyl mercaptan, is added to liquid gas. Your customers should be notified of the following:

1. Odorants are not always effective. Installation of a propane gas detector would provide a warning should there be an uncontrolled and undetected release in the home.

2. Propane gas is approximately 1.5 times heavier than air. In the even of a leak, the gas initially tends to collect in low areas. Should there be suspicion of a propane leak, an attempt should be made to smell the gas at floor level.

3. The ability to detect odors may be affected by smoking, the use of alcohol, colds, allergies, sinus congestion, age, or even cold weather.

4. Sense of smell may become desensitized to odorized gas should there be continued exposure to the odor. The strength of the odor should never be used as an indicator of the amount of propane released.

5. Propane is an asphyxiant and can cause symptoms ranging from dizziness to respiratory arrest and death by suffocation. When handling propane, be sure to provide adequate ventilation and avoid contact with eyes, skin, or clothing.

6. The odor of released propane may be un-noticeable should there be a strong competing odor, such as tobacco smoke or strong cooking odors.

Your customers should never ignore the smell of propane. If there is suspicion of a gas leak, customers should shut off their gas, evacuate the area, and call their supplier from another location.

Maintaining and Servicing Propane Systems

Propane is completely safe when stored in a **properly installed and maintained system.** Your customers should always contact a trained gas service technician when their system is in need of repair. To prevent contamination, empty containers should be kept closed and plugged. Their propane gas supplier should complete any purging that may be needed. Water may damage the gas control; if the control has gotten wet, have if replaced immediately by a trained gas service technician. Be sure to inspect any equipment or system to be sure that it is in proper working order before introducing propane. Urge your customers to have their systems checked periodically to ensure the safest and most accurate performance.

Oxidation

Odorants are added to propane as a safety device, but are not always detectable. Oxidation may occur should an odorant come into contact with oxidizing compounds, such as rust (iron oxide). Contact with scale, rust, or even a new tank surface may weaken the strength of the odorant and diminish the chances that a leak will be detected. Since oxygen and water can form rust, be sure to thoroughly purge any tank which has an undetermined history, has been empty with no remaining gas pressure, or which has been exposed to air.

Underground Piping

The movement of gas through soil can diminish the distinctive smell of odorant in propane, which can result in an undetected leak. Customers should be encouraged to have their underground piping system checked occasionally as the soil may absorb some or most of the odorant.

Supplementary Detection Methods

As an added safety precaution, your customers should be encouraged to use supplementary detection methods such as gas detectors, in high-risk areas. A correctly installed and operating electronic gas detector will sound an alarm should it detect traces of propane gas in the air. Customers should be warned, though, that electronic detectors may give off false alarms. If an alarm does not sound, yet there is the distinct odor of propane detected in the air, it should be taken seriously. Propane gas detectors, when used properly, will greatly reduce the chance of an undetected propane gas leak.

Reminder

- ✓ **Always be sure that a system has been checked and is in safe working order before introducing propane.**
- ✓ **Warn your customers to shut off their gas, evacuate the area, and call you if they ever suspect a leak.**
- ✓ **Urge your customers to periodically have their system thoroughly checked.**
- ✓ **Always have your customers call trained professionals when any repairs are needed.**

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IF ETHYL MERCAPTAN'S DISTINCTIVE ODOR IS DETECTED, PROPANE VAPORS ARE MOST LIKELY ALSO PRESENT AND IMMEDIATE EMERGENCY ACTION SHOULD BE TAKEN. HOWEVER, THE OPPOSITE MAY NOT BE TRUE. THE ABSENCE OF A GASSY ODOR DOES NOT GUARANTEE THAT PROPANE IS NOT PRESENT.

DISCLAIMERS

Smith Gas Liquids Company does not know all the ways its shippers, customers, or transporters will handle; store or use odorized propane, and makes no warranty regarding the propane or the ethyl mercaptan after delivery.

Smith Gas Liquids Company recommends that its customers provide their own employees, customers and other concerned parties with information regarding the characteristics of propane and the limitation of any odorant, including ethyl mercaptan.

The Safety Bulletin has been prepared by Smith Gas Liquids Company and is intended to enhance the safe use of propane. The company has used all possible care to ensure the accuracy of the information contained in this bulletin but assumes no liability for any errors, omissions, or defects whatsoever in the content, or for any damage or injury resulting from the use of this bulletin or from reliance by any person or entity on its content.

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