

MSDS *Material Safety Data Sheet*

Holly Refining & Marketing Company

Propane

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MSDS Number: 900107

Revision Date: 7/01/03

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PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Holly Refining & Marketing Company
393 South 800 West

Woods Cross, Utah 84087

Contact: Health, Environmental & Safety Representative

Telephone Number: (801) 299-6600

FAX Number: (801) 299-6609

E-Mail:

Web

Product Name: Propane
Revision Date: 7/01/03
MSDS Number: 900107
Common Name: Propane
Chemical Family: Liquefied petroleum gas
Synonyms: LP-Gas Liquefied Petroleum Gas Odorized Propane Propane (Stenched)
Propane (Unstenched) Propane Commercial Propane Motor Fuel Propane for Process Unodorized Propane

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:

Spill, Leak, Fire or Accident

CHEMTREC: (800)424-9300

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures:

Liquefied gas may cause eye and skin burns and frostbite. Gas may reduce oxygen available for breathing. Use ventilation adequate to keep exposure below recommended limits, if any. Avoid contact with eyes, skin and clothing.

Physical Hazards/Precautionary Measures: Flammable gas. Can cause flash fire. Liquefied petroleum gas. Contents under pressure. Keep away from heat, sparks, flames, static electricity or other sources of ignition. Do not enter storage areas or confined space unless adequately ventilated.

Physical form: Gas or Liquid (Under pressure)

Odor: Odorless (or skunk, rotten egg, dead animal, or garlic if odorant added)

Appearance: Colorless

NFPA Hazard Class:

Health: 3 (High)

Flammability: 4 (Extreme)

Reactivity: 0 (Least)

HMIS Hazard Class

Health: 3 (High)

Flammability: 4 (Extreme)

Physical Hazard: 0 (Least)

*Indicates possible chronic health effects.

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2 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Chemical Name	Perc.
74-98-6	Propane	>65
115-07-1	Propylene	<35
74-84-0	Ethane	<6
78-28-5; 106-97-8	Total Butanes	<5
75-08-1	Ethyl mercaptan	<0.1

3 HAZARDS IDENTIFICATION

Route of Entry:

Target Organs: Inadequate data available for this material.

Inhalation: Asphyxiant. High concentrations in confined spaces may limit oxygen available for breathing. See Signs and Symptoms.

Skin Contact: Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn). This material is a gas under normal atmospheric conditions. No harmful effects from skin absorption are expected.

Eye Contact: Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Ingestion: This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Other Comments:

High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus. Exposure during pregnancy to high concentrations of carbon monoxide or carbon dioxide, which are produced during the combustion of hydrocarbon gases, can also cause harm to the developing fetus.

This material contains mercaptans. Mercaptans are toxic gases with the smell of rotten cabbage. The smell disappears rapidly because of olfactory fatigue. Therefore, odor may not be a reliable indicator of exposure. Effects of overexposure include nausea, vomiting, irritation of the nose, throat and digestive tract, signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination and fatigue), pulmonary edema, muscle weakness, convulsions, respiratory failure, coma and death.

Pre-Existing Medical Conditions:

Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Section 4 -Note to Physicians).

4 FIRST AID MEASURES

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Skin Contact: Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Eye Contact: For contact with the liquefied gas, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Ingestion: This material is a gas under normal atmospheric conditions and ingestion is unlikely.

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Note To Physicians: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5 FIRE FIGHTING MEASURES

Flash Point: -156 °F/-104 °C
Autoignition Temperature: 842 °F/432 °C
LEL: 2.1%
UEL: 9.5%
Flammability Classification: Flammable Gas

Other:
SEE BELOW

Unusual Fire & Explosion Hazards:

This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire. Closed containers exposed to extreme heat can rupture due to pressure buildup.

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Stay away from ends of container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk.

6 ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

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7 HANDLING AND STORAGE

Handling Precautions: Contents under pressure. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage Requirements: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Protective Equipment: Respiratory:
Wear a positive pressure air supplied respirator in situations where there may be potential for airborne exposure above exposure limits (see Section 2). If exposure concentration is unknown or if conditions immediately dangerous to life or health (IDLH) exist, use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin:
The use of thermally resistant gloves is recommended.

Eye/Face:
Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment:
Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn when skin contact is possible.

Suggestions for the use of specific protective materials are based on readily available published

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data. Users should check with specific manufacturers to confirm the performance of their products.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, light yellow, or light green	Boiling Point:	-44°F / -42°C
Physical State:	Gas or Liquid (Under pressure)	Freezing/Melting Pt.:	-309.46°F
Odor:	Odorless (or skunk, rotten egg, dead animal, or garlic if odorant added)	Solubility:	Negligible
pH:	N/A	Spec Grav./Density:	0.508-0.510 @60/60°F (15.6/15.6°C)
Vapor Pressure:	Characteristic petroleum		
Vapor Density:	1.50		
Evap. Rate:	<1		
Bulk Density:	N/A lbs/gal		
Viscosity:	N/A		
Percent Volatile:	N/A		

10 STABILITY AND REACTIVITY

Stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable gas.
Conditions to avoid:	Avoid all possible sources of ignition.
Materials to avoid (incompatibility):	Avoid contact with strong oxidants.
Hazardous Decomposition products:	Combustion can yield carbon dioxide and carbon monoxide.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Chronic Data:
No definitive information available on carcinogenicity, mutagenicity, target organ, or developmental toxicity.

12 ECOLOGICAL INFORMATION

There is no information available on the ecotoxicological effects of petroleum gases. Because of their high volatility, they are unlikely to cause ground or water pollution. Petroleum gases released into the environment will rapidly disperse into the atmosphere and undergo photochemical degradation.

13 DISPOSAL CONSIDERATIONS

This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristic(s) of ignitability (D001). If the spilled or released material impacts soil, water, or other media, characteristic testing of the contaminated materials may be required prior to their disposal. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container

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rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14 TRANSPORT INFORMATION

DOT Shipping Description: Petroleum gases, liquefied, 2.1, UN1075
Bulk Package Placard/Marking: Flammable Gas/1075
Non-Bulk Package Marking: Petroleum gases, liquefied, UN1075
Non-Bulk Package Label: Flammable gas
Packaging References: 49 CFR 173.306, 173.304, 173.314, 173.315
Emergency Response Guide: 115
Hazardous Substance/RQ: None

Note:

IMDG:

Shipping Description: Petroleum gases, liquefied, 2.1, UN1075
Non-Bulk Package Marking: Petroleum gases, liquefied, UN1075
Labels: Flammable gas
Placards/Marking (Bulk): Flammable gas/1075
Packaging - Non-Bulk: P200
EmS#: F-D, S-U

IATA:

Proper Shipping Name: Petroleum gases, liquefied
Hazard Class/Division: 2.1
Un/ID#: UN1075
Packing Group: None
Subsidiary Risk: None
Non-Bulk Package Marking: Petroleum gases, liquefied, UN1075
Labels: Flammable gas

	LTD.	QTY.	Passenger Aircraft	Cargo Aircraft Only
Packing Instruction #:	-		Forbidden	200
Max. Net Qty. Per Package:	-		-	150 kg

15 REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

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

SARA 313 and 40 CFR 372:

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

Component	CAS Number	Weight %
Propylene	115-07-1	<35
Mercaptans	Various	<0.1

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety

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Code Section 25249.5):

Component	Effect
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None

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

EPA (CERCLA) Reportable Quantity:

None

WHMIS Class:

A-Compressed Gas

B1-Flammable Gas

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

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OTHER INFORMATION

Issue Date: 07/01/03

Previous Issue Date: None

Revised Sections: N/A

MSDS Number: 900107

Status: Final

Disclaimer of Expressed and Implied Warranties:

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