MATERIAL SAFETY DATA SHEET

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHS Inc.
P.O. Box 64089
Mail station 525
St. Paul, MN 55164-0089

Transportation Emergency (CHEMTREC): 1-800-424-9300
Technical Information: 1-651-355-8443
MSDS Information: 1-651-355-8438

PRODUCT NAME: Propane

MSDS: 0148-M7A0 – Rev. G (12/19/07)

COMMON NAME: Propane, Liquefied Petroleum Gas; LP Gas; Dimethyl methane

CHEMICAL FORMULA: C_3H_8

CHEMICAL NAME: Dimethylmethane

CHEMICAL FAMILY: Paraffin Hydrocarbons

Section 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS	PERCENTAGES (by weight)	PEL (OSHA)	TLV (ACGIH)	CAS #
Propane	95 - 100%	1000 ppm TWA	2500 ppm TWA Simple Asphyxiant	74-98-6
Propylene	0 - 5%	N/D	Simple Asphyxiant	115-07-1

NOTE: Ethyl Mercaptan added as an odorant.
(TWA) - Time Weighted Average is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded.
(STEL) - Short Term Exposure Limit is the employee's 15-minute time weighted average exposure which shall not be exceeded at any time during a work day unless another time limit is specified.

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER! Extremely flammable. Compressed gas. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Liquid can cause burns similar to frostbite. Caution: Ethyl mercaptan used as a warning agent may not be entirely effective in all situations because of a condition commonly referred to as odor fade (see section 10 for more information). If you suspect a leak, use a combustible gas indicator or similar device to check for gas leaks.

OSHA HAZARD CLASS

Based on OSHA definitions, the following ingredients in this product are hazardous. The OSHA physical and health hazard categories are shown below. **Note: CHS has not conducted specific toxicity tests on this product. Our hazard evaluation is based on information from similar ingredients, technical literature, and/or professional experience.**

Propane - Flammable Gas, Compressed Gas, Asphyxiant

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation, Dermal.

ACUTE EFFECTS OF OVER EXPOSURE:

Eyes - Liquid can cause burns similar to frostbite.

Skin - Liquid can cause burns similar to frostbite.

Inhalation - At very high concentrations can displace the normal air and cause suffocation from lack of oxygen. Symptoms of lack of oxygen include increase depth and frequency of breathing, dizziness, headache, nausea or loss of consciousness.

Ingestion - Liquid can cause burns similar to frostbite.

CHRONIC EFFECTS OF OVER EXPOSURE: None Determined

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Personnel with pre-existing chronic respiratory diseases should avoid exposure to this material

CARCINOGENICITY: NTP: No **IARC:** No **OSHA:** No **EMERGENCY AND FIRST AID PROCEDURES:**

Section 4 - FIRST AID MEASURES

Eye Contact - If liquid propane contacts the eye, flush thoroughly with water for at least 15 minutes, occasionally lifting the upper and lower lids, until no evidence of chemical remains. Get medical attention as soon as possible.

Skin Contact - Frozen tissue should be flushed with plenty of tepid water. Do not use hot water. Cryogenic (low temperature) burns which result in blistering or deeper tissue freezing should be promptly treated by a physician.

Inhalation - Move person to fresh air. If large amounts have been inhaled, keep victim warm and get medical attention. Apply artificial respiration if not breathing.

Ingestion –

Section 5 - FIRE - FIGHTING MEASURES

FLASH POINT: -156°F **AUTO IGNITION TEMP:** 874°F

FLAMMABLE LIMITS IN AIR % BY VOLUME	**LOWER**	**UPPER**
	2.1	9.5

EXTINGUISHING MEDIA: Do not extinguish gas fire unless the gas leak can be stopped. For small fire use dry chemical or Carbon Dioxide (CO_2). For large fires, use water spray or fog and move containers from fire area if you can do so without risk.

SPECIAL FIRE FIGHTING PROCEDURES: Shut off gas source and allow the fire to burn itself out. Gas fires should not be extinguished unless the gas flow can be stopped immediately. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.

FIRE INVOLVING TANK, RAIL CAR, OR TANK TRUCK: Isolate for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions Call CHEMTREC at 1-800-424-9300 as soon as possible, especially if there is no local hazardous materials team available. If gas source cannot be shut off immediately, fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool container with flooding quantities of water until well after fire is out to prevent container from exploding. ALWAYS stay away from tanks engulfed in fire. WITHDRAW IMMEDIATELY in case of rising sound from venting safety devices or discoloration of tank. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and may travel along the ground and collect in low or confined areas and be exposed to a source of ignition (pilot light, heater, electric motor) some distance away. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tank due to fire.

HAZARD RATINGS:				
NFPA 704:	Health- 1	Fire- 4	Reactivity- 0
HMIS:	Health- 1	Fire- 4	Reactivity- 0

Section 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO TAKE IF MATERIAL IS RELEASED OR SPILLED: ELIMINATE ALL SOURCES OF IGNITION AND STOP LEAK IF YOU CAN DO SO WITHOUT RISK. Notify emergency response personnel as appropriate. Keep unnecessary people away; isolate hazard area and deny entry. Vapors can be dispersed with sustained water spray. Prevent spreading of vapors through sewers, ventilation systems and confined areas. NOTE: Review Section 5 -FIRE-FIGHTING MEASURES before proceeding with clean up. Use appropriate personal protective equipment during emergency response.

Section 7 - HANDLING AND STORAGE

HANDLING AND STORING: Consult the U.S. Department of Transportation regulations on the shipping of petroleum gases. If upon initial receipt inspection a cylinder is found to be in poor condition, contact the supplier. The most common hazard is leakage due to faulty pressure control regulators. Large pressure build-up can result in explosive decompression at the cylinder head, causing the cylinder to rocket like a missile. Prevent entrapment of liquid in closed system. Use check valve to prevent back-flow into storage container. Chain cylinders when not in use. Cylinder storage should be segregated from oxidizers such as oxygen, chlorine, etc. and away from heavy traffic areas to prevent knocking over or damage from falling objects. Valve caps should remain on cylinders.

Section 8 - EXPOSURE CONTROL - PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust and general ventilation may both be necessary in work area to prevent accumulation of explosive mixtures. Provide special ventilation in sumps and confined spaces. If mechanical ventilation is used, electrical equipment must meet National Electrical Code requirements.

RESPIRATORY EQUIPMENT: Personnel should never enter an area of high concentration without proper respiratory protection. Provide NIOSH-approved air-supplied respirator or self-contained breathing apparatus for emergency or non-routine situations where the level is excessive.

EYE PROTECTION: Use face shield or chemical type goggles where contact with material may occur such as when changing valves, hoses, etc.

PROTECTIVE CLOTHING: Use protective clothing, face shield, and gloves when contact with liquid propane is possible.

OTHER (SAFETY SHOWERS, EYE WASH STATIONS, ETC.): Emergency eye wash fountains and safety showers for first aid treatment of potential freeze burns should be available in the vicinity of any significant exposure from compressed gas release.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless gas (liquid under pressure)

ODOR: If odorized, will have rotten egg odor, otherwise odorless.

BOILING POINT: 760 mmHg @ -44°F

SPECIFIC GRAVITY (water=1): 0.5

VAPOR PRESSURE: 190 psia @ 100°F

VAPOR DENSITY (air=1): 1.5

SOLUBLE IN WATER: Very slightly soluble

EVAPORATION RATE (ether=1): N/A

pH:

Section 10 - STABILITY AND REACTIVITY

STABILITY -

STABLE _X_ (At normal temperature and storage conditions)
UNSTABLE

INCOMPATIBILITY -

CONDITIONS TO AVOID: Propane vapors will form explosive mixtures with air and will easily ignite by heat, sparks, flames, build-up of static electricity, and other sources of ignition. Note: Ethyl mercaptan might, under certain conditions (when oxygen, water, iron oxide or other oxidizers are present in containers and piping) react with oxidizers which diminish or eliminate entirely its distinct smell, thereby reducing or eliminating the ability of a person to detect a leak. The passage of odorized propane through soil because of an underground leak will also diminish or eliminate entirely the smell of odorized propane. If you suspect a leak, use a combustible gas indicator or similar device to check for gas leaks.

MATERIALS TO AVOID: Strong acids, alkalies and oxidizers such as chlorine (gas or liquid) and oxygen.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal combustion produces carbon dioxide; incomplete combustion can produce carbon monoxide.

HAZARDOUS POLYMERIZATION: Has not been reported to occur.

Section 11 - TOXICOLOGY INFORMATION

Note: CHS has not conducted specific toxicity tests on this product.

Section 12 - ECOLOGICAL INFORMATION

Note: CHS has not conducted specific ecological tests on this product.

Section 13 - DISPOSAL CONSIDERATION

WASTE DISPOSAL PROCEDURES: Releases are expected to cause only localized non-persistent environmental damage. Waste mixtures containing these gases should not be allowed to enter drains or sewers where there is danger of vapors being ignited. When it becomes necessary to dispose of these gases, it is preferable to do so as a vapor. These gases may be used as an auxiliary fuel or disposed of by flaring in a properly designed flare or incinerator. Venting of the gases to the atmosphere should be avoided. Treatment, storage, transportation and disposal must be in accordance with applicable federal, state and local regulations.

Section 14 - TRANSPORTATION

DOT PROPER SHIPPING NAME: Liquefied Petroleum Gas

DOT HAZARD CLASS: 2.1

DOT IDENTIFICATION NUMBER: UN 1075

DOT EMER. RESPONSE GUIDE NO.: 115
(Formerly #22)

DOT LABEL, PLACARD: Flammable Gas

Section 15 - REGULATORY INFORMATION

This product may contain the following 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.

Cas Number	Chemical Name	Percent By Weight
115-07-1	Propylene	0 - 5%

SARA SECTION 311-312 HAZARD CATEGORIES (40 CFR 370.2):

FIRE: Yes **SUDDEN RELEASE OF PRESSURE:** Yes **REACTIVE:** No **ACUTE:** Yes **CHRONIC:** No

Section 16 - OTHER INFORMATION

Updated By: Gary Bourne / Hue Lam Date: December 19, 2007

Title: EHS Compliance Specialists Supersedes: February 08, 2007

Reason for issue: Revised shipping name and UN number in Section 14.