

(CHEMTREC NUMBER ONLY TO BE USED IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.)

Material Safety Data Sheet (MSDS)

PROPANE

<u>Material</u> Propane	<u>MSDS No.</u> 4	<u>Date</u> January 31, 2006
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MATERIAL IDENTIFICATION

Material/Trade Name

Propane

Synonyms

Dimethyl Methane, LP-Gas, LPG, HD-10 Propane

Chemical Family/Formula

Aliphatic Hydrocarbon, Alkane Series

Hazard Rating *

1 - Health
4 - Fire
0 - Reactivity

*Source NFPA 704

Hazard Rating Guide

0 Least	3 High
1 Slight	4 Extreme
2 Moderate	

CAS No.

74-98-6

INGREDIENTS

Propane

Composition

>85 (LV) Propane (C₃H₈), CAS # 74-98-6, Simple Asphyxiant (ACGIH), TWA 1000 ppm (OSHA)

< 10 (LV) Propylene (C₃H₆) CAS # 115-07-1 Simple Asphyxiant (ACGIH)

< 5 (LV) Iso-Butane (C₄H₁₀) CAS # 75-28-5, TWA 800 ppm (ACGIH) (Butane)

<0.5 (LV) Pentane CAS # 109-66-0, TWA 1000 ppm 8-Hour (OSHA), TWA 600 ppm 8-Hour (ACGIH), STEL 750 ppm 15-Min (ACGIH)

Ethyl Mercaptan may be added as malodorant minimum 1 lb. to approximately 1.5 lbs. Per 10,000 gallons of liquid propane

Toxicity Data

In high concentrations gases are simple asphyxiants, contact with evaporating liquid can cause frostbite.

PHYSICAL DATA

Boiling Point

-45 /14.7 psia^oF

Solubility in H₂O, % by Weight

<0.1%

Specific Gravity, H₂O, = 1

0.504 @ 60^oF

Evaporation Rate, Butyl Acetate

Gas at normal ambient conditions

Vapor Pressure, MM/HG

188 / psia @ 100^o F

Molecular Weight

44.0

Vapor Density, Air = 1

2

Freezing Point

-305^o F

Appearance and Odor

Colorless, odorless gas, unless odorant added, then odor of Ethyl Mercaptan

FIRE & EXPLOSION DATA

Flash Point and Test Method
- 156° F (TCC)

Auto Ignition Temperature
842° F

**Flammability Limits in Air,
% by Volume**
LEL – 2.3% UEL – 9.5%

Extinguishing Media
Isolate source. Use water spray, dry chemical,
carbon dioxide, or halon.

Special Fire Fighting Procedures:

Evacuate the area for at least 1/2 mile in all directions if rail car or tank truck is involved in fire. Use water to keep fire-exposed containers cool. If containers experience flame or heat impingement, cool immediately to prevent BLEVE (Boiling Liquid Expanding Vapor Explosion) Always approach from sides and never from the ends. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop a leak. Water spray may be used to flush spills away from exposures.

Unusual Fire and Explosion Hazards:

Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respir-atory protection.

REACTIVITY DATA

Stability
Stable

Hazardous Polymerization
Will not occur.

Conditions and Materials to Avoid
Oxidizing materials, flame, heat.

Hazardous Decomposition Products
Incomplete combustion may produce carbon monoxide.

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL Not determined for this product - 8 Hr. TWA ACGIH = 1000 ppm.

HEALTH INFORMATION

Acute Exposure

Inhalation may produce rapid breathing, headache, dizziness visual disturbances, muscular weakness, tremors, narcosis, unconsciousness, and death, depending upon concentration and duration of exposure. Contact with the eyes, skin, or other tissues with the gas may cause freeze burns (frostbite).

Eye Contact

Vapors are not expected to present an eye Irritation hazard but contact with gas or ice Ice crystals may cause freeze burns of the eye.

Skin Contact

Material is not expected to be absorbed through the skin, however contact with evaporating gas may cause freeze burns.

Inhalation

Inhalation may produce rapid breathing, headache, dizziness visual disturbances, muscular weakness, tremors, narcosis, unconsciousness, and death, depending upon concentration and duration of exposure.

Ingestion

Solid and Liquid forms of this material and the pressurized gas can cause freeze burns.

Chronic Effects

Pre-existing respiratory conditions may be aggravated by exposure to this material. Persons with such respiratory conditions should avoid contact with this material.

EMERGENCY AND FIRST AID PROCEDURES

Eyes

No irritating properties are known for this material. If freeze burns to the eyes occur, flush with warm water for at least 15 minutes. Contact physician.

Skin

Frozen tissues should be flooded with warm (not hot) water. Cryogenic burns which result in blistering or deeper tissue freezing should be seen promptly by a physician.

Inhalation

Remove to fresh air. Restore breathing if necessary. Administer oxygen if breathing difficulty persists and contact physician for treatment.

Ingestion

INDUCE VOMITING with warm water (one quart) only if patient is fully conscious. Contact physician for immediate treatment.

EMPLOYEE PROTECTION

Respiratory

In the event of a spill or release use a positive pressure / pressure demand self-contained breathing apparatus (SCBA) or airline respirator as approved by MSHA-NIOSH.

Eye

Splash goggles and face shield when eye contact may occur.

Gloves

Use impervious plastic or neoprene-coated canvas gloves.

Other Clothing

Use chemical resistant apron or other clothing, to protect skin from contact with liquids or gases.

Ventilation

Local exhaust - In closed areas - Use of explosion proof electrical equipment (Class I, Division 1 Group D) mechanical ventilation equipment recommended.

Other Protective Measures

Emergency eyewash should be available in areas where materials are routinely transferred.

ENVIRONMENTAL PROTECTION

Storage

Store product in containers appropriate for its flammability/combustibility.

Spill Cleanup Procedure

Report spills to appropriate authorities. In case of accident or road spill, notify Chemtrec (800) 424-9300. If spill could reach any waterway, including intermittent dry stream beds, immediate notification of Coast Guard is required - (800) 424-8802.

Spill or Leak

Eliminate all ignition sources. Eliminate source of release or spill if possible. Located all personnel upwind of spill. If rail car or tank truck is involved in fire evacuate in all directions for 1/2 mile. Stop source of release before extinguishing any fire. Ventilate enclosed areas to prevent the formation of explosive or oxygen deficient atmospheres. Water spray may be used to reduce vapor concentrations. Closed systems may form white frost at the point of the leak. Liquid spills will vaporize forming cold, dense vapor clouds that do not readily disperse. Avoid vapor cloud even with proper respiratory equipment. The fire department should be notified immediately.

Waste Disposal

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 a danger of their vapors becoming ignited. When it becomes necessary to dispose of these gases, it is preferable to do so as a vapor. Unused product may be used as an auxiliary fuel or disposed by burning in a properly designed flare or incinerator. Venting of gas to the atmosphere should be avoided. Defective, empty, or partially used portable containers should be returned to the supplier with appropriate tags.

SPECIAL PROTECTION

Do not store or use near strong oxidizing agents, flames, sparks or hot surfaces. Store in tightly sealed containers in clean, well-ventilated areas. Bond and ground metal containers for liquid transfer. Do not smoke in areas of handling or use. See NFPA 58, and API 2510 for more information.

TRANSPORTATION REQUIREMENTS

<u>DOT Proper Shipping Name</u>	<u>DOT I.D. No. (UN/NA)</u>	<u>North American ERG Guide No.</u>
Propane	UN 1978	115
Liquefied Petroleum Gas	UN 1075	115
<u>DOT Hazard Classification</u>	<u>DOT Packing Group</u>	
2.1	N/A	
<u>Other</u>		
N/A		

This information relates only to the specific material designed and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of this company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

INERGY SERVICES

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Tupman, CA. 93276-0430

(661) 765-4087 (Office)

(866) 295-2176 (24 – Hour Answering Service)

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